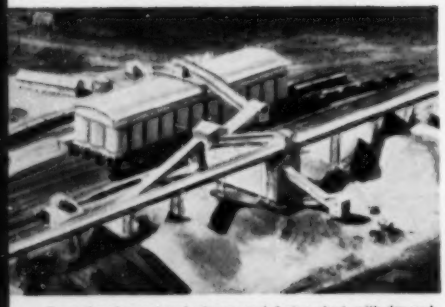
COMMERCIAL FERTILIZER

CONSOLIDATED WITH THE FERTILIZER GREEN BOOK

Three of the A.A.C. Co's electrically-operated draglines at work at our phosphate mines in Central Florida. Bucket capacities range from 9½ to 17 cubic yards. The 17-yard draglines with their 175-foot booms each weigh more than a million and a half pounds and can move 35,000 tons of material in 24 hours. From these rock deposits flow a continuous stream of high quality phosphate rock, assuring a dependable source of supply of AA QUALITY phosphorus products, see list below.

AA Quality...

for over 85 years a symbol of quality and reliability



From the air—wet rock storage and drying plant, with dry rock storage silos in background. These silos, 29 in number, have a total capacity of 40,000 tons of dried rock. Under the silos are four runways where 40 railroad cars can be loaded at a time.

principal AA QUALITY products

All grades of Florida Pebble Phosphate Rock
AA QUALITY Ground Phosphate Rock
All grades of Complete Fertilizers **Superphosphate**
Gelatin **Bone Products** **Salt Cake** **Ammonium Carbonate**
Sulphuric Acid **Fluosilicates** **Insecticides and Fungicides**
Phosphoric Acid and Phosphates
Phosphorus and Compounds of Phosphorus

THE AMERICAN AGRICULTURAL CHEMICAL COMPANY

GENERAL OFFICE: 50 CHURCH STREET, NEW YORK 7, N. Y.

30 FACTORIES AND SALES OFFICES, SERVING U.S., CANADA AND CUBA—ASSURE DEPENDABLE SERVICE

Rugged NEW SHOVELOADER mechanizes bulk handling for only $3395.00*

For LESS than $10.00 a day for one year . . . much less than you pay a laborer with a hand shovel . . . you can own a Baker-Lull 12 cubic foot SHOVELOADER. And you get a lot more for the money!

Check all of these features and see why this SHOVELOADER compares with others costing $350 to $400 more. The lift height is a tall seven feet with lifting capacity a husky 1500 pounds . . . 500 pounds more than most competitive units. The loader arms are located out in front of the operator—not around him—to keep him safe from injury and give him clear-view visibility at all times. The bucket can be cradled low too, giving him unobstructed forward visibility and making it unnecessary to drive backward as with other units. Maximum travel speed is 14 MPH. Plenty of bucket tilt back at ground level makes it easy to get a full bucket every time from stockpiles . . . letting you reduce handling costs by moving more bulk in a shorter time.

Attachments let you do more types of work too. Lift forks let you handle palletized loads, the crane hook gives you a portable hoist, and special buckets are available for handling dense materials. Exhaust-destroying catalytic equipment is also available for indoor use where necessary.

Baker-Lull SHOVELOADERS are available in sizes ranging from 12 cubic feet to 1½ cubic yards four wheel drive. Should you desire information on other sizes please specify when writing. The BAKER-LULL Corporation, 406 West 90th Street, Minneapolis 20, Minn.

*F.O.B. Minneapolis

THE BAKER-LULL CORPORATION,
406 West 90th Street • Minneapolis 20, Minn.

Please send full information on the Baker-Lull, Model 20, 12 cu. ft. SHOVELOADER which sells for only $3395.00.

NAME.....

COMPANY.....

ADDRESS.....

CITY.....STATE.....

Baker Lull
handling equipment

SHOVELOADER

PAY DIRT

for pottery or pumpkins

In 1862, when John W. Searles, a prospector, staked mining claims on Searles Lake in California's Mojave Desert, he little knew he had discovered the richest natural deposit of *diversified* chemicals the world has ever known. In ensuing years triumphs in chemical engineering have enabled American Potash and Chemical Corporation to win from this vast dry lake bed millions of tons of basic chemicals vital to twentieth century life... POTASH, one of the three plant foods necessary to maintain our agricultural economy, BORAX, BORIC ACID, SODA ASH, SALT CAKE, BROMINE and LITHIUM CARBONATE used in the manufacture of glassware, ceramics, paper, enamelware and a countless array of consumer products. Constant improvement of the company's manufacturing processes at Trona, coupled with enlarged and modern research and development facilities, guarantee you a uniform and high quality source of supply.

American Potash & Chemical Corporation

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Offices • 3030 West Sixth Street, Los Angeles 54, California
• 122 East 42nd Street, New York 17, New York
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and a diversified line of specialized AGRICULTURAL, REFRIGERANT and INDUSTRIAL CHEMICALS

COMMERCIAL FERTILIZER

ESTABLISHED 1910

September, 1954

Volume 89 No. 3

ADVERTISING INDEX

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In This Issue

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FERTILIZING in the fall, after the harvest, is becoming a widespread practice. This practice is being pushed by agronomists, agricultural college extension services, vocational-agriculture teachers and farm publications. Many farmers will do it this year.

Fall fertilizing helps the farmer ration his valuable time better. By getting the fertilizing done in the fall, when the farmer is not so rushed, he is free in the busy spring to do other jobs. And nitrogen, applied in the fall, helps the soil to "digest" or break down plant residues and get crops off to an earlier, faster start.

Any fall fertilizing program necessitates the use of nitrogen in the non-leaching ammonia form. That's why farmers like to use USS Ammonium Sulphate.

USS Ammonium Sulphate helps to build new business for you. It's easy to handle, mixes well and it won't set up in storage. You can get USS Ammonium Sulphate either in bulk for mixing or in tough, moistureproof 100-pound bags to be sold for direct application.

Make sure that you've got enough to take full advantage of this big new fall market. If your stocks are low, get in touch with our nearest coal chemical sales office right away for quick delivery of dependable USS Ammonium Sulphate.

USS AMMONIUM SULPHATE

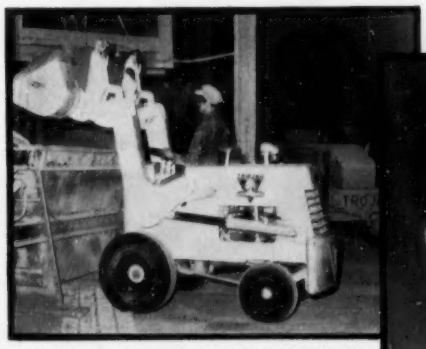
4-1948

UNITED STATES STEEL

Trojan Loadsters are . . .

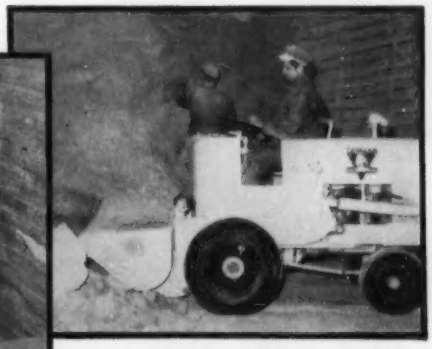
MAN-HOUR SAVERS!

Production moves FAST with the multi-purpose Trojan Loadster Model LA-40. The LA-40 handles ALL kinds of bulk material in ALL kinds of plants. Whether loading or unloading, the LA-40 delivers the goods fast, using a minimum of working space (turns in a 6'6" radius). Model LA-40 travels fast too, with its low load carrying position, giving you "more tonnage per day."



Here's complete safety with Model LA-40 dumping into hopper.

Model LA-40 Unloading Boxcar with room to spare.



Model LA-40 Digging cured material for bagging.

exclusive BIG 3 features:

1 Reverse curve arms* for safety!

Even when the bucket is fully raised, constant 360° vision and complete safety for your operator is maintained.

(*U.S. Pat. 2,645,369)

2 Low load carrying position!

A low load is a safe load for stability and speed; especially when handling fertilizer and other bulk material. Your operator will like Trojan's "wheel level" carrying position.

3 Independent bucket action!

Just flipping the bucket closed, this operator gets a full load everytime. Trojan's independent bucket action pries loose hard packed material, too.

There's one in the Trojan Loadster Line to fit your need —
Model LA-40 — Model LMS-75 — Model LC-100 — Model LC-100-B

CONTRACTORS MACHINERY CO., INC. • BATAVIA, NEW YORK TROJAN

Mail this coupon today for full details on Model LA-40.

NAME _____

TITLE _____ COMPANY _____

ADDRESS _____

CITY _____ STATE _____

JUST AROUND THE CORNER

By Vernon Mount

UNDER SOME NAME there will either be an European Defense Community,- or a group of added satellites to the USSR, with perhaps England and Russia glaring at each other across the channel. There seems to be no alternative, for all the tea-parties being held in the Kremlin, and all the talk going around the world about "co-existence."

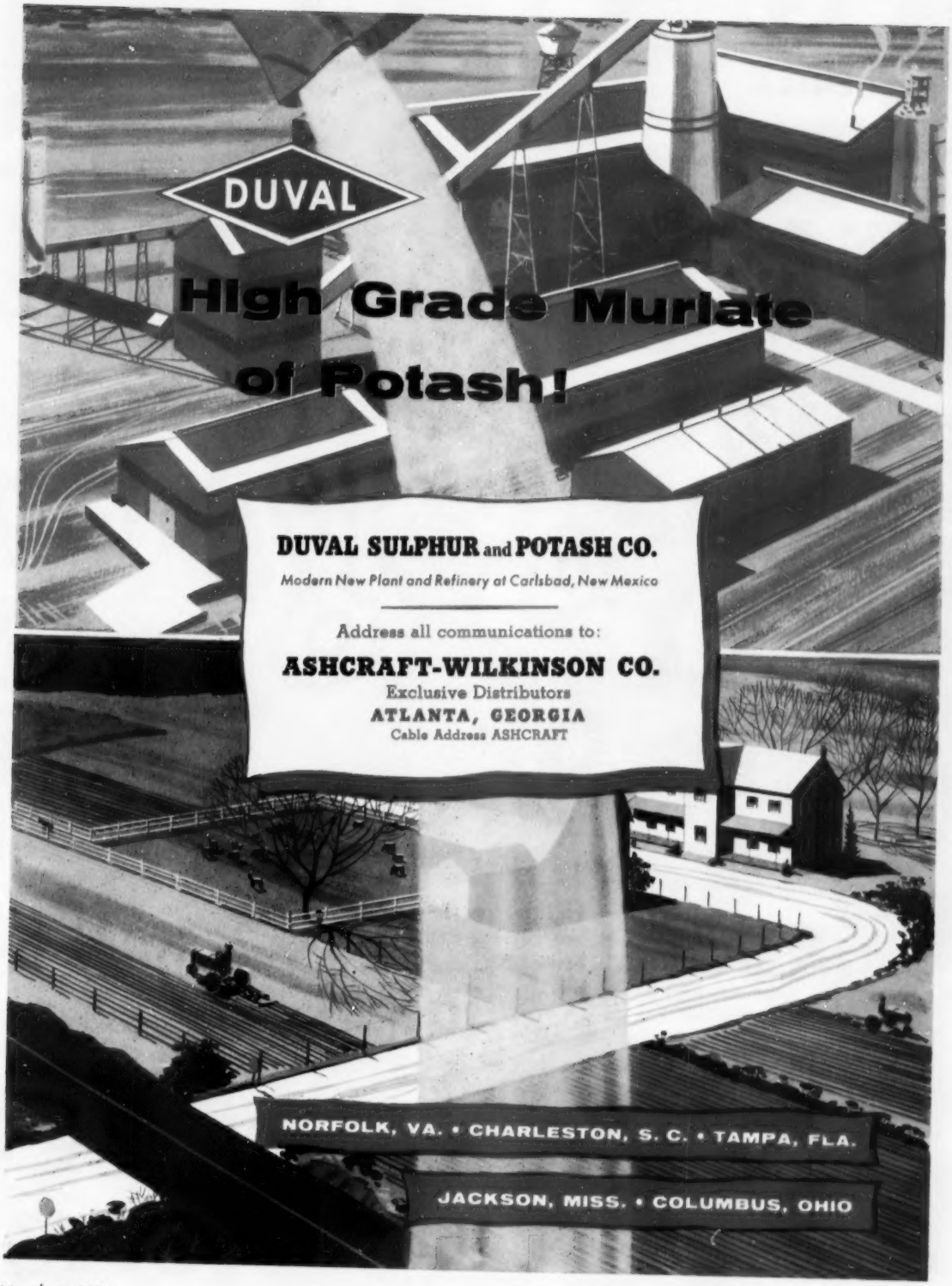
IN THE HITLER MANNER Communist China is saying it will be happy, and stop expanding, when Formosa falls. That statement can be trusted about as far as Hitler's similar statements could be back in the days of Anschluss. And the only virtue to the bristling front presented by the Chinese communists is that they worry Russia, which is not too sure they could be trusted in the East while the USSR consolidates its creeping political gains in the West.

FRANCE'S traditional position is understandable. An armed Germany has always brought them trouble. But, the rest of the world asks, what if France is lost to the very real present enemy on her borders while she worries about a specter of the future.

BY OCTOBER there may be real fireworks...or a six-nation EDC. We'll just have to watch and see.

Yours faithfully,

Vernon Mount


DUVAL
High Grade Muriate of Potash!
DUVAL SULPHUR and POTASH CO.
Modern New Plant and Refinery at Carlsbad, New Mexico
Address all communications to:
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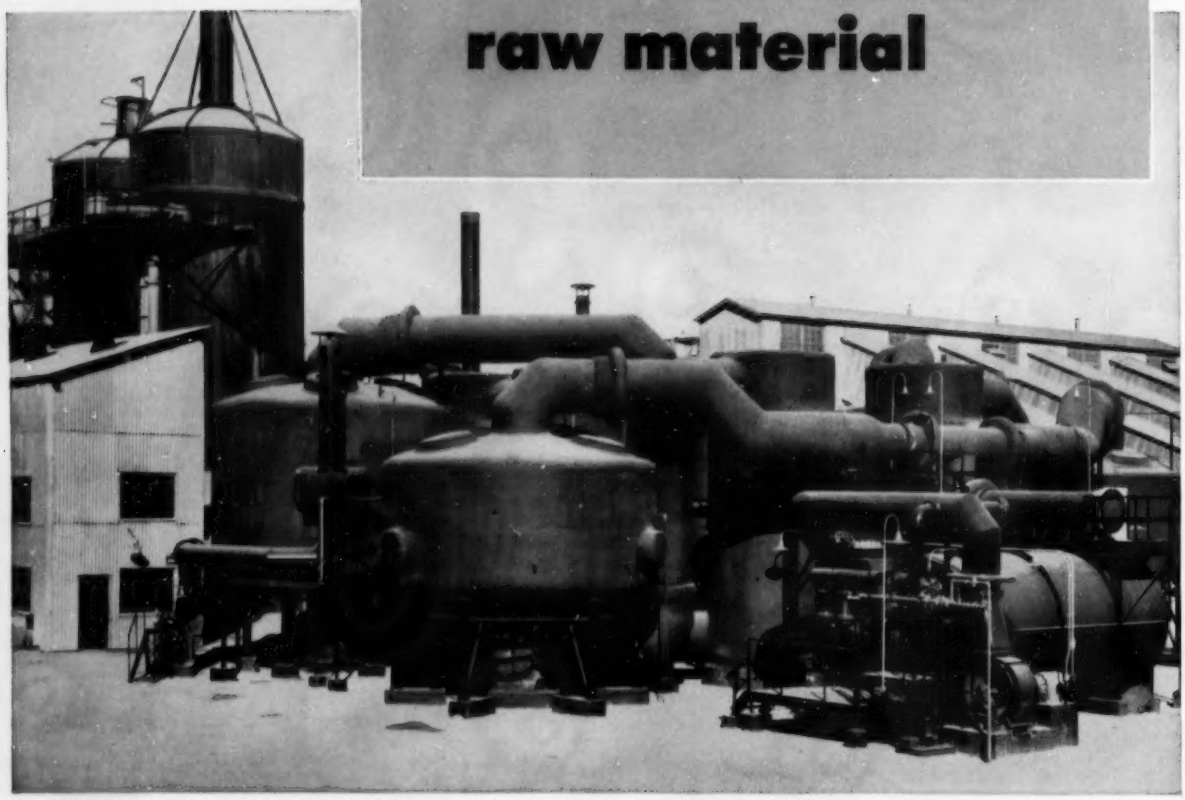
Another
CHEMICO
achievement

H_2SO_4 from an unusual raw material



By the completion of the 450 ton-acid plant for the Anaconda Copper Company at Weed Heights, Nevada, Chemico has added another unusual raw material to the list of materials from which Chemico plants produce sulfuric acid. Low grade ores containing 25 to 30 per cent uncombined sulfur are roasted in Dorr FluoSolids reactors to produce strong sulfur dioxide which is cooled, purified and processed into fresh acid of high strength. The plant has unusual features of design that permit it to operate at 150 tons or at 500 tons per day capacity with equal efficiency. • If your problem relates to sulfuric acid manufacture, concentration or recovery, Chemico can help you.

Chemico plants also make H_2SO_4 from these sources

- *Hydrogen Sulfide*
- *Sulfide Ores*
- *Sulfur*
- *Waste Smelter Gases*
- *Sulfur Dioxide*
- *Refinery Acid Sludge*
- *Spent Alkylation Acid*
- *Pickling Liquor*

CHEMICAL CONSTRUCTION CORPORATION

A UNIT OF AMERICAN CYANAMID COMPANY

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TECHNICAL REPRESENTATIVES: CYANAMID PRODUCTS LTD., LONDON • CHEMICAL CONSTRUCTION (INTER-AMERICAN) LTD., TORONTO • SOUTH AFRICAN CYANAMID (PTY) LTD., JOHANNESBURG

GC 871

Chemico plants are profitable investments

EXACT WEIGHT Platform Scale

Provides Visible Indication for Fast, Accurate Readings

This EXACT WEIGHT Platform Scale has a capacity of 500 pounds, yet provides outstanding speed and accuracy. A hydraulic damping mechanism brings weight indicator to rest quickly—and high-ratio visible indication enables operator to make an accurate reading at a glance. Indicator travel of three inches over and under is equivalent to three pounds over and under. Sturdily built, with permanent alignment of operating parts. Write for details on Model 4005-2.

EXACT WEIGHT Sacking Scales

Save Time, Product, Profit!

Sack, weigh, and visibly checkweigh in ONE operation! One simple operation does the work of three. Available in five different models for varied installations. Model 2229, shown, is designed for ceiling suspension. Write for complete information.

Sales and Service from Coast to Coast

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Better quality control
Better cost control

THE EXACT WEIGHT SCALE COMPANY

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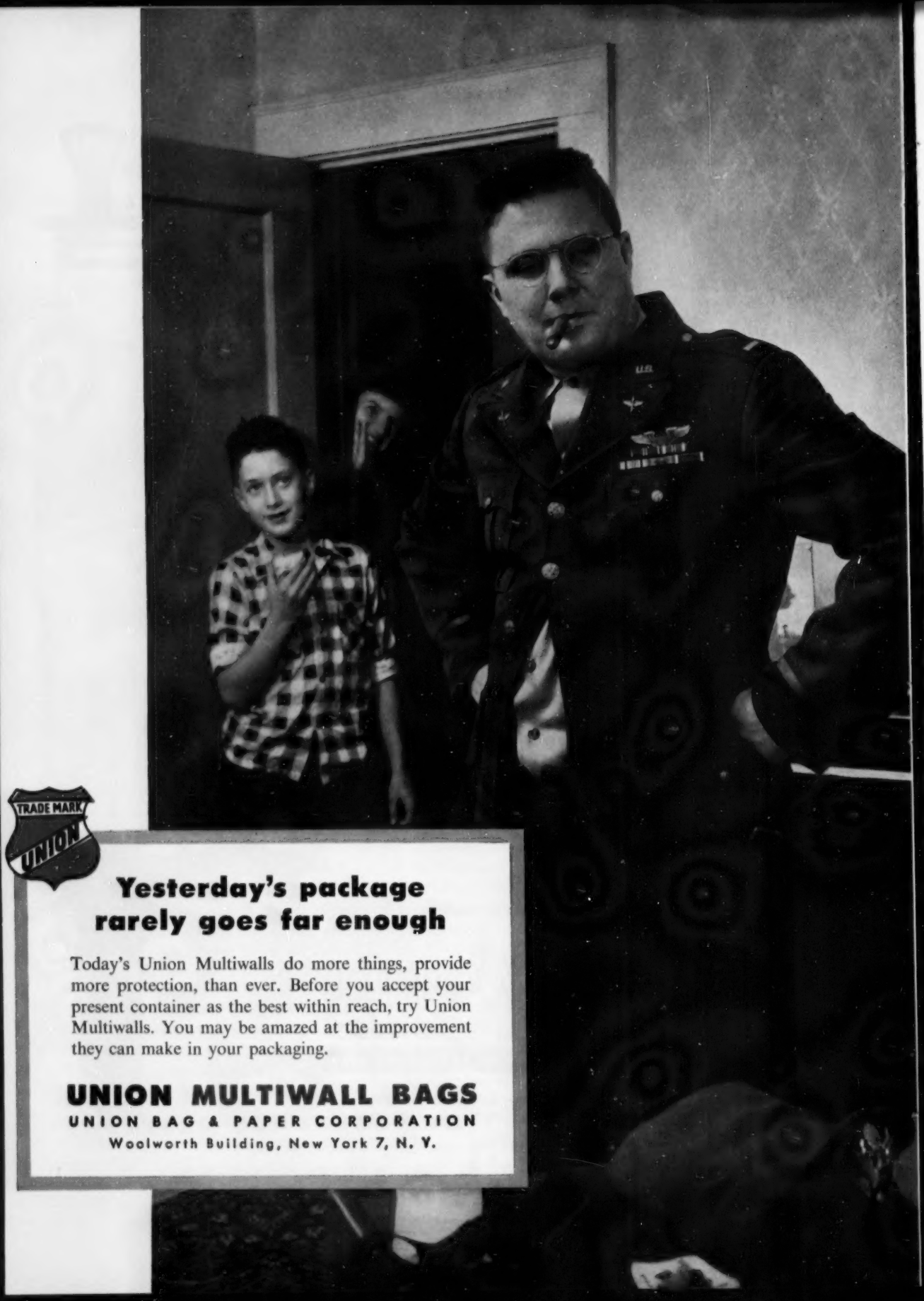


Yesterday's package rarely goes far enough

Today's Union Multiwalls do more things, provide more protection, than ever. Before you accept your present container as the best within reach, try Union Multiwalls. You may be amazed at the improvement they can make in your packaging.

UNION MULTIWALL BAGS

UNION BAG & PAPER CORPORATION

Woolworth Building, New York 7, N. Y.

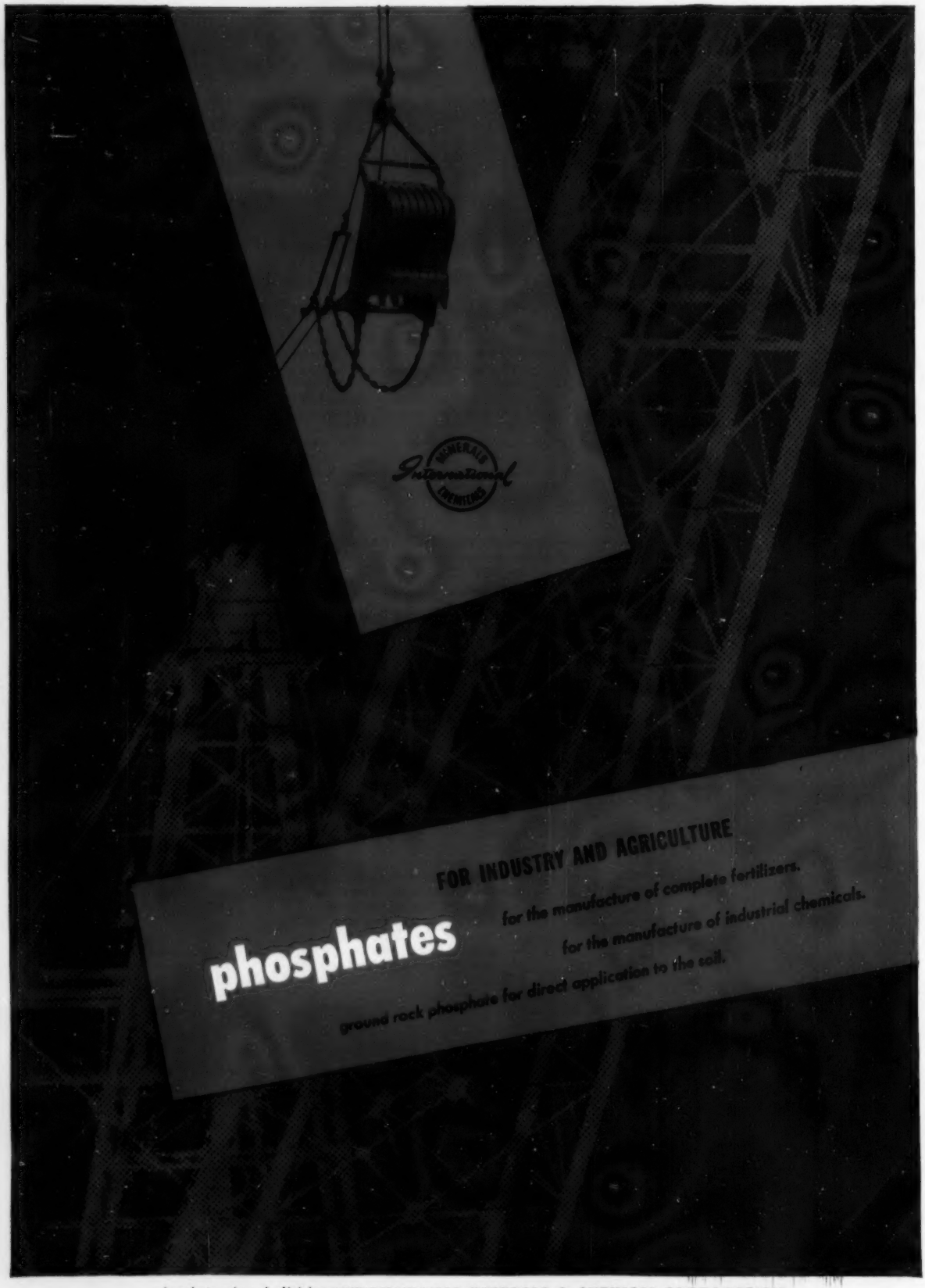
IT'S AS Simple AS MAKING MUD PIES!

Samples, Specifications and Detailed Information on Request.

It is as easy for you to make a mineralized fertilizer as it is for a child to make mud pies. Tennessee Corporation will custom-mix any combination of minerals to your own specifications. Thus there is only ONE ingredient to add to your regular fertilizer formula for a completely balanced plant food. It requires no additional labor or mixing facilities, since TC Mineral Mixtures come to your plant—in bulk or bag—already carefully mixed in controlled amounts of soluble and readily available forms of Copper, Manganese, Iron, Zinc, Magnesium and Boron. Cut down on multiple purchasing, raw material costs, and handling by mineralizing with a TC custom-formulated mineral mixture.

TENNESSEE TC CORPORATION

617-629 Grant Building, Atlanta, Ga.



phosphate minerals division **INTERNATIONAL MINERALS & CHEMICAL CORPORATION**

GENERAL OFFICES: 20 NORTH WACKER DRIVE, CHICAGO 6 • Phosphate Mines and Plants in Florida at Noralyn, Peace Valley, Achan, Mulberry; in Tennessee at Mt. Pleasant and Wales • INTERNATIONAL produces phosphate, potash, complete fertilizers and feed phosphates for the American farmer.

Oklahoma Association Elects

New officers were elected and a new program of activities outlined at a recent meeting of the Oklahoma Plant Food Assn. Officers of the organization for 1954-55 are George Summers Jr., American Cyanamid Co., Stillwater, president; Warren Dewlen, Consumers Cooperative Assn., Muskogee, vice-president; Arnold Newman, Oklahoma Fertilizer, Oklahoma City, treasurer and Parks A. Yeats, State Board of Agriculture, Oklahoma City, secretary.

The group approved plans to sponsor a wheat fertilization contest this fall in co-operation with the Oklahoma Future Farmers of America and the state 4-H clubs. The two farm youth groups will each compete separately for $500 in cash prizes. Local chapters will compete with each other in the FFA division of the contest. In the 4-H division, competition will be on an individual basis. Judging will be based primarily on percentage of yield increase from proper fertilizer use.

Beginning in September the first issue of a monthly newsletter will be published by the association. It will go to association members, agricultural workers and others interested in promoting proper use of fertilizer.

Assistance is to be given by the association in the Extension Service's fertilizer demonstration programs. Identification signs for demonstration plots are being furnished.

A speakers bureau is to be made available by the association, supplying speakers for meetings of farmers and agricultural workers. Visual aids are to be supplied vocational agriculture instructors on fertilizer use. A radio, television, newspaper and magazine publicity program is being planned.

Fertilizer dealer meetings will be held this fall at Shawnee and Chickasha by the association. A membership drive will be held to increase membership from the present 95. Memberships may be held by fertilizer manufacturers, mixers, suppliers and dealers as well as by allied industries. Besides fertilizer industry members, membership now includes banks, bag manufacturers and publications.

It Seems to Me

by BRUCE MORAN

How does your merchandising of fertilizer compare with the other forms of selling to which your dealers' farm customers are exposed . . . by the electric appliance people, the farm implement concerns, the automotive field? Are you being outsold? Are, you missing a big bet by not studying their methods?

Our industry is a hundred years old, but so are some of the others. Before electricity the wood stove and then the kerosene stove man did right well in the country. And the lightning rod salesman still cleans up a tidy profit for his concerns, and a neat commission for himself.

I am not proposing that we lose our dignified status as advisors to the farmer. That is worth a great deal. But we can cash in on it better than we are doing. All I need do is point to the tonnage actually sold, and compare it with the tonnage which would be sold if Land Grant College advice were followed to the letter. That tells the story.

What have you done this season to make sure that, come Spring, you'll have a neat volume gain—instead of a loss—tucked under your sales belt . . . and a good profit, instead of the penalty of cut prices, in your fertilizer year fiscal statement?

INDUSTRY CALENDAR

Date	Organization	Place	City	State
Sept. 8-10	NACA	Essex & Sussex	Spring Lake	N. J.
Sept. 15-17	ACS Fertlizer, Soil	Statler Hotel	NYC	N. Y.
Oct. 6-7	Pac. N.W. Plant Food		Sun Valley	Idaho
Oct. 11-13	Ag Chemists	Shoreham	Washington	D. C.
Oct. 15	Control Officials	Shoreham	Washington	D. C.
Oct. 18-19	Fertilizer Safety	LaSalle Hotel	Chicago	Ill.
Oct. 25-28	ASA & SSS		Minneapolis	Minn.
Nov. 3-4	S. C. Fertilizer	Clemson College	Clemson	S. C.
Nov. 8-12	Crop, Soil	St. Paul Hotel	St. Paul	Minn.
Nov. 10-12	NFA	Hollywood Beach Hotel	Hollywood	Fla.
Nov. 15-16	CFA	del Coronado Hotel	Coronado	Calif.
Nov. 19	S. C. Safety	Cleveland Hotel	Spartanburg	S. C.
Dec. 2-3	Cotton Insect	Adolphus	Dallas	Texas
Dec. 5-8	Ammonia Institute	Jung	New Orleans	La.
Dec. 7	Fertz. Safety Exec.	Spencer Chemical	Memphis	Tenn.
		— 1955 —		
Feb. 27-28	Southern Safety		New Orleans	La.

MARKETS

ORGANICS: The fertilizer organic market in the last week has been extremely active and already domestic producers of Nitrogenous Tankage are in the most heavily sold position they have been in many years. During the last week one of these producers advanced the price to $3.65 per unit of Ammonia, bulk, f.o.b. production point when previous sales were made at $3.00 to $3.25 and $3.50. Another producer is also quoting $3.65 and is heavily sold. The price of Chicago Activated Sludge continues firm at $2.75 per unit of Ammonia and 50¢ per unit of APA, bulk, f.o.b. Chicago and some business has been done at $2.95 and 50¢. Bookings are heavy for prompt shipment and for season's requirements.

CASTOR POMACE: One of the principal New Jersey producers has just recently begun production on a limited scale after a shutdown for several months. This producer is already sold out at $27.00 per ton, bagged, f.o.b. production point for production in sight. On August 6th the major New Jersey producer sold out expected production through December 1954 and has not yet announced the price for the January/forward production. At the moment supplies of domestic Castor Pomace can not be purchased and orders are having to be declined by the producers. No offerings are in the market for the Texas/Oklahoma production and probably will not be available until late October or November. Production is expected to be approximately 25% of last season from Texas/Oklahoma. The Castor Pomace market is extremely tight.

DRIED BLOOD: The Chicago market is around $7.75 to $8.00 per unit of Ammonia, unground, in sacks and the New York market is about $8.00.

POTASH: Deliveries against contracts in some areas are improving but demand in general is rather quiet. Imported Sulphate of Potash is indicated at around 90¢ per unit K_2O, in bulk, exvessel Atlantic ports.

CF STAFF-COMPILED TONNAGE REPORTS

So many states changed their methods of reporting fertilizer tonnage movement that for some time it has seemed impossible to supply this important data to the industry. Commercial Fertilizer herewith furnishes the first report compiled by our own staff, as complete as we could make it. We will make every effort to maintain the accuracy of this data, and to broaden the area covered, as the information can be secured from the various states.

FERTILIZER TONNAGE REPORTS (in equivalent short tons)
Compiled by COMMERCIAL FERTILIZER Staff

State	July	June	May	April-May-June Quarter 1954	April-May-June Quarter 1953	Season 1953-54
Alabama	.....	46,696	89,469	426,488	330,840	1,010,519[1]
Arkansas	.....	28,420	30,062	147,461	[2]	.....
Georgia	38,504	102,253	262,764	761,348	684,311	1,361,254
Louisiana	6,940	21,290	25,253	110,234	101,163	310,367[3]
Missouri	9,004	13,553	90,951	232,260	181,466[4]	.....
N. Carolina	.....	72,232	168,097	694,799	685,359	1,815,572
Oklahoma	2,879	5,701	11,777	31,627	27,136	144,367
S. Carolina	8,667	12,845	40,880	160,908	191,677	936,558
Tennessee	23,256	65,414	160,585	322,123	306,971	523,300
Texas	15,472	35,210	61,355	169,970	155,857	562,520
Virginia		(reports submitted quarterly)		314,945	323,265	716,552
TOTAL	104,722	403,614	941,193	3,372,163	2,939,045	7,381,019

[1] 9 months, October-June
[2] Not compiled
[3] 11 months, September-July
[4] Estimated from tag sales

GROUND COTTON BUR ASH: That excellent source of Potash, primarily in the form of Carbonate of Potash and testing currently 35% to 38% K_2O, is available for immediate and future shipment. Delivered costs approximate delivered cost of domestic Sulphate of Potash.

PHOSPHATE ROCK: No unusual activity in this market and prices are steady.

SUPERPHOSPHATE: Movement of normal 20% Superphosphate is in seasonal dimensions and no unusual activity is noted. Supply of triple Superphosphate for the new season is expected to be much improved over supplies available during the past season.

AMMONIUM NITRATE: Prices continue firm and supplies for the new season are expected to be more comfortable due to increased production.

SULPHATE OF AMMONIA: There has been very little change in market conditions and production is on a curtailed basis for coke-oven material.

NITRATE OF SODA: Demand is in seasonal dimensions and stocks are adequate with no change in prices.

GENERAL: The market is marked by very unusual activity in organic fertilizer materials which have been rapidly selling at advanced prices. A number of popular organics will be available for the new season in drastically reduced supply. Prices of other fertilizer ingredients generally are about the same to somewhat lower than last season.

ARKANSAS

Arkansas Farmers Association, Little Rock, has turned to **Mathieson Chemical** to replace the source of supply denied them when as we reported here in July, **Arkansas Farmers Plant Food Company** severed their exclusive sales contract. AFA sales for the last fiscal year are reported at $2,624,045. Sales will continue under the AFA brand name.

* * *

Tongin Fertilizer Company, Inc., Marianna, has been incorporated with $30,000 capital stock by **R. H. Lindsey, Jr., W. H. Baker, C. R. West** and **Max D. Miller.**

CALIFORNIA

Brea Chemicals, Brea, which only recently got under way with its new $13,000,000 ammonia plant, as reported here, is now building the first portion of its new nitric acid and ammonium nitrate facilities which are reported to reach another $2,500,000. Brea, which is a subsidiary of **Union Oil,** is only 2 years old. By the end of next year they expect to build sales to $15,000,000 annually. For this year they will have totalled around $6,000,000, it is estimated.

* * *

American Potash & Chemical, Los Angeles, have completed the package redesign project begun last April, and reported here at the time; 21 products, the entire line, are now wearing what they call their "new look" . . . the first basic change in AP&C packaging in 35 years. The change was made not only for greater sales appeal, but to aid identification as well. For example, sulfate of potash is in green, while muriate of potash is in blue.

* * *

Harry E. Sexton has been granted a use variance permit for six months "approval period" to permit him to establish a fertilizer business: treating, grinding and sacking dairy compost; by the Orange County Planning Commission, Santa Ana.

IDAHO

Anaconda Copper Mining has been taking out phosphate rock at Conda for 24 years, and is said to be the most continuous operation in the intermountain West, having interrupted production for brief periods only in the 1920s and 1930s. Some 2,000,000 tons have been shipped in the period.

ILLINOIS

Hegeler Zinc Company, Danville, has been acquired, through an exchange of stock, by **National Distillers Products** who have expressed their intention to become a major factor in the mid-West agricultural chemical picture. Their chief interest in Hegeler lies in the sulphuric plant, which produces 77% acid, and which they plan to expand, and to integrate with the **U. S I. Division** plants in Tuscola, Dubuque and De Soto which are producing between them 900 daily tons of sulphuric acid. U. S. I., as we have previously reported, is building an ammonia plant at Tuscola, which should be in production by "early Fall" they tell us, producing anhydrous ammonia and nitrogen solutions. The first unit of this plant was not complete when they awarded contracts doubling its ammonia capacity.

* * *

Douglas County Grain Company and **Galton Grain and Oil Company,** Galton, have established and will jointly operate a liquid fertilizer business, with 50,000 gallons of storage and a 33 foot boom applicator to start off with. **Clark Fullerton** is president.

* * *

Hoblit Bonnett Fertilizer Co., Atlanta, has been incorporated with 30,000 shares of $10 common and 1000 of preferred at $100 by **Frank, Joe and John H. Jr., Hoblit,** and **Yontz Bonnett, Jr.**

INDIANA

Seneca Soil Service, Fowler, will get under way this month with the plant they plan to complete and have in service by the end of the year. They serve a 25 mile radius.

IOWA

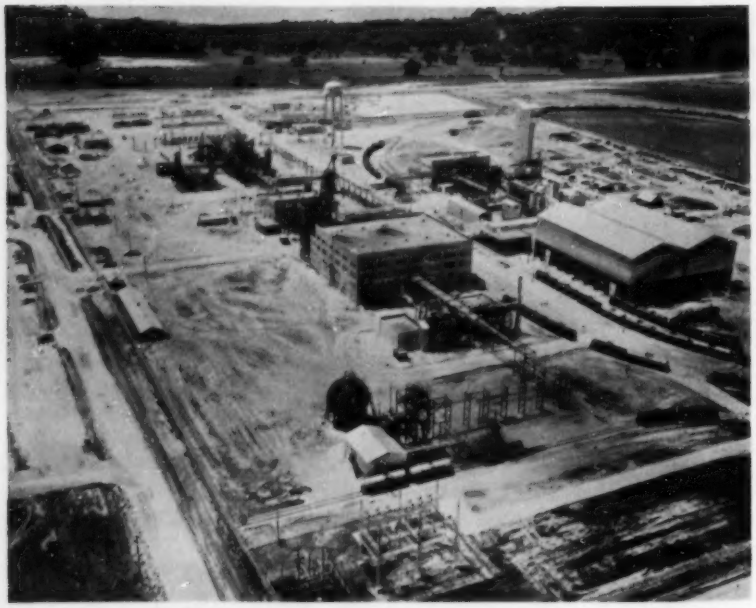
Super-Plant Crop Foods, Inc. is a new Ottumwa concern which will be in operation this season. They have leased some 25,000 square feet of space. It is owned by the **Carpenters—J. L., David** and **Don.**

* * *

Poweschiek-Jasper Farm Service, Brooklyn, have sold $20,000 of additional preferred stock. **Raymond W. Harris,** president, says the funds will be used for expansion,—new storage

PHILLIPS SELL VIA THEIR FILLING STATIONS

Phillips Petroleum gas stations, which cover a very wide area of United States, are now merchandisers of Phillips Chemical ammonium sulfate in home lawn-and-garden sizes. The advantage to the consumer is said to be the convenience of picking up his fertilizer when he stops for gas; the advantage of a ready-made distribution system to the Company is obvious.



Aerial view of new Omaha, Nebraska plant of Nitrogen Division, Allied Chemical & Dye Corporation.

for bulk goods, and for low-pressure liquid nitrogen.

* * *

The **Iowa Farm Supply Company** plant at Des Moines has installed additional equipment to further control fumes and dust. Investigation and experimentation have been in effect during the past two years to determine the best method to control fumes and dust. The changes made this summer are expected to keep this nuisance to a minimum.

KANSAS

Schrock Fertilizer Service have opened at their Western office, Bern, a plant to offer liquid fertilizer to that area.

MINNESOTA

Clinton Co-op Creamery, Clinton, are ready with their bulk plant so that Fall applications may be started at once in accordance with University recommendations.

MISSOURI

Boonville Mill and Grain have put into operation their fertilizer mixing plant at Boonville. They also operate in North Boonville and New Franklin.

MONTANA

Montana Engineering Experiment Station at Bozeman is moving from Melstone the $100,000 plant owned by **PDF Processing Co.** According to **Dr. Roland R. Renne,** Montana State president, the plant will be used to experiment with the extraction of various chemicals, including fertilizer materials, from coal. **Dr. Lloyd Berg,** head of chemical engineering, will direct the work.

NEBRASKA

Nitrogen Division had hardly announced the initial production of urea at their new $25,000,000 plant at Omaha—which went into ammonia production last April—when it was decided to double the ammonia capacity and install facilities for the production of various types of nitrogen solutions. President **Hugo Riemer** said that construction will begin as soon as the necessary supply of natural gas for raw material has been assured.

The initial units have a capacity of 61,000 annual tons of nitrogen and urea, using **Allied Chemical's** own process. The engineering and construction work on these facilities were by **Catalytic Construction,** Philadelphia, and were completed well within a very tight construction schedule.

T. Ellwood Webster, president of Catalytic, in giving some of the details of the Omaha undertaking, said that approximately 2,000 Catalytic construction workers were employed on the project; 2300 tons of structural steel were required in the fourteen major and ten minor buildings, 100 miles of electrical wiring, and many miles of pipe were installed.

In addition to designing and erecting the buildings and installing the equipment, Catalytic prepared the site, which was formerly farm land at the juction of the Platte and Missouri Rivers, engineered and built a steam plant, supervised the installation of a well system, built roads and other services for the plant. The natural gas reforming facilities were installed by **The Girdler Company** of Louisville, Ky.

The newly completed project, utilizing natural gas and air as raw materials, is designed to produce and ship over 100,000 tons of nitrogen products per year. It is the first nitrogen plant in the north-central agricultural area of the United States.

* * *

Norfolk Fertilizer Inc., Grand Island, has been incorporated for $250,000 authorized by **Howard L. Peterson, Gilles L. Downey** and **Burdette F. Backlund.**

* * *

General Fertilizer Service Company, Fremont, has been incorporated with $200,000 authorized capital by **Walter A. Koepplin, Stewart Daniels, Victor M. Keilstrup** and **J. M. Rice.**

NEW JERSEY

Monsanto Chemical Company plans major expansion of facilities for production of phosphate salts and phosphoric acid, including an entirely new plant to be located at Kearny, N. J., was announced July 29 by vice president **J. L. Christian,** inorganic chemicals division general manager.

In addition to the Kearny location, the expansion involved added facilities in existing plants at Trenton, Mich., St. Louis, Monsanto, Ill., and Long Beach, Calif. Construction of some of the units already is un-

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helps speed deliveries . . .

"Al. Kraft" is the doctor when it comes to speeding deliveries of Albemarle Multiwall sacks. That's because he can keep his finger on the pulse of the complete operation . . . from wood pulp to finished bags.

Albemarle Multiwalls come from a completely integrated mill that not only makes its own stout Kraft but has unusual facilities for color matching and printing. Albemarle's own machines paste and sew plain or valved bags in plies to suit your specifications.

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der way and other work will start immediately.

Initial facilities at the Kearny site, which are expected to be ready for production by early 1955, will include a unit for the conversion of elemental phosphorus into phosphoric acid, and a plant for the production of sodium tripolyphosphate.

At the Long Beach, Calif., plant, a phosphoric acid unit will be constructed.

Expansion of existing units for production of sodium tripolyphosphate and new facilities to produce tetrasodium pyrophosphate will be undertaken at the Carondelet plant in St. Louis. At Trenton, facilities for the production of phosphoric acid will be increased. A new acid burner also will be installed at Monsanto, Ill.

The production of elemental phosphorus at the Soda Springs, Idaho plant will be doubled late this year with the completion of the second electric furnace there. This supply supplements existing production at Soda Springs and at Monsanto, Tenn. Monsanto is the world's largest producer of elemental phosphorus.

OHIO

Nitrogen Division's South Point plant is to be increased by 20,000 annual tons of ammonia, the plant to be in production by late 1955. (See also Nebraska)

* * *

Standard Oil Company (Ohio) will invest $17 million in a petrochemical manufacturing plant to be located in the Toledo-Lima, Ohio area, it was announced August 13, by **Clyde T. Foster,** president.

Engineering plans are now substantially complete, but several plant sites are still being considered. Final selection, expected soon, will be based upon the results of nearly-completed appraisals of water and waste disposal problems and comparisons of delivered raw material costs.

The Lima-Toledo area is in the center of the agricultural and industrial market which Sohio expects to serve, Mr. Foster pointed out. At Lima, by-product hydrogen is available from the platformer operations of the Sohio refinery. It could constitute a substantial portion of the petrochemical plant raw material supply and be supplemented with natural gas. However, the Toledo area has substantial attraction from the points of view of water supply and waste disposal.

Construction of the plant, which will produce anhydrous ammonia, urea, nitrogen solutions and nitric acid, is expected to start in September and is scheduled for completion early in the fourth quarter of 1955.

The Sohio plant will have a daily production capacity of 300 tons of anhydrous ammonia, of which almost 200 tons per day will be used in additional processing to make approximately 125 tons of urea, 60 tons of nitric acid and over 200 tons of nitrogen solutions per day.

The major portion of Sohio's new products will be used as fertilizers but with a substantial portion to industrial users, it is anticipated.

This is a major diversification step for Sohio, taken after completion of a comprehensive market study, as reported here last month, and thorough examination of the several processes available for producing the products chosen.

The **M. W. Kellogg Company** will construct the anhydrous ammonia plant.

Employment at the plant is expected to be about 120 people eventually, including administrative and technical forces.

* * *

Farm Bureau Cooperative Ass'n, Columbus, has announced plans for construction of a new $750,000 fertilizer manufacturing plant near Mt. Gilead. According to **Wayne H. Shidaker,** vice president — operations, for the state association, construction will begin immediately.

The plant, when completed, will be one of the most modern in the country and will be capable of producing 70,000 tons of granulated fertilizer annually. It will be designed and built by the **A. J. Sackett and Sons Company** of Baltimore, Maryland. The plant will be completed and in full scale production by July, 1955, Mr. Shidaker said.

Construction of the Mt. Gilead plant will make a total of six fertilizer manufacturing plants owned and operated by FBC in Ohio. Existing plants are located in Alliance, Dayton, Glendale, Marietta, and Maumee.

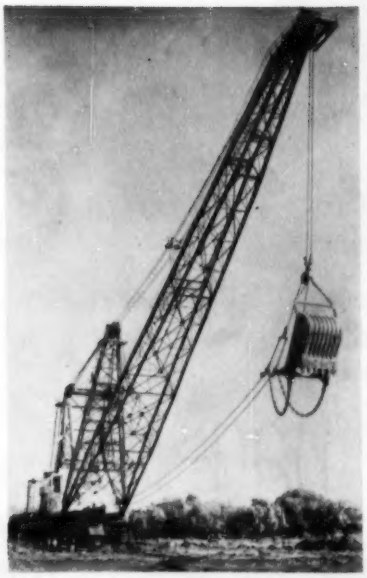
The new plant will serve farmers from 15 counties in the area, within a 50-mile radius of Mt. Gilead.

* * *

The Miami Fertilizer Co., Dayton, recently announced practical completion of facilities to produce moisture-free chemical fertilizers. According to **C. Russell Martin,** president, the company is the first in Ohio to shift to a granular type fertilizer.

Mr. Martin and the late **E. W. Wampler** established the firm 29 years ago.

STORY OF SOIL—A guide at Chicago's Museum of Science and Industry shows a section of the new exhibit, "Food for Life," to two visitors. The exhibit, sponsored by Swift & Company, tells the story of nutrition from the soil through plants and livestock to finished foods for man.



International Minerals & Chemical Corporation's giant new dragline, the Super Scooper, largest operating in the Florida phosphate fields. Total weight of the Super Scooper amounts to 1,450 tons. Bucket capacity is 26 cubic yards, while weight per bucketful totals 84,500 pounds. The boom is 235 feet long and there are 38 motors used throughout the dragline, the largest 1,250 horsepower, the smallest ½ horsepower. Twelve generators supply power for the motors. The "shoes" which enable the Super Scooper to take seven-feet long "steps", measure 9 by 54 feet. "Walking" speed is 528 feet per hour. Shipping the unassembled parts of the dragline to Florida required 68 flatcars. Total time consumed in erecting the Super Scooper amounted to 132 days.

Glenn J. Noggle, chemist and superintendent for 27 years, and Clarence Crickmore, seven-year employe, supervise the plant operations.

OKLAHOMA

John Deere Chemical, Pryor, went into production last month. As our readers know, it is a $20,000,000 operation with a capacity of 180 daily tons of ammonia and 220 daily tons of urea (45%). It will operate for the time being at about 1% of capacity until the bugs have been ironed out, according to **L. A. Rowland,** president. About 190 people are employed, and the payroll will climb to 225 under maximum production. The production of this plant, Deere's first venture into the fertilizer business, will be sold under the Vicrea trade name.

Sapulpa's city commission is considering a sewage treatment plant which would combine garbage and waste into fertilizer. They are considering operating the proposed system, or leasing it on a royalty basis . . . if built.

OREGON

Brea Chemicals have put into service a 90,000 gallon aqua ammonia distribution terminal and conversion station at Malin to supply northern California and southern Oregon.

PENNSYLVANIA

Atlantic Refining has put into operation its Philadelphia ammonia plant, which is designed to produce 100 daily tons, and which is the first of its kind in that area. About 40% of output will go to agriculture.

The plant, part of a $50,000,000 modernization program, employs the largest catalytic cracking unit in the world.

SOUTH CAROLINA

Caldwell's, Inc., Spartanburg, has been chartered with $100,000 capital stock to manufacture fertilizer and for other related activities. **James B. Caldwell** is president.

TENNESSEE

TVA will quit production of concentrated superphosphates in 1955 and devote its energies to the development and introduction of other pioneering types of fertilizer materials, according to reports on a talk made in Owatonna, Minnesota by **Martin E. Weeks,** assistant director of TVA's Division of Agricultural Relations. In his talk, Mr. Weeks is quoted as discussing TVA's pioneering in ammonium nitrate, "and had a considerable part in developing the use of anhydrous and liquid ammonia".

* * *

Mine Equipment Co., Columbia, is constructing a washing plant for the processing of phosphate rock, an investment of around $200,000. **H. R. Mosley,** former manager of the **TVA** phosphate plant at Columbia will be associated with the new organization. **Wayne Pressnell** is president of Mine Equipment.

* * *

Farmers Fertilizer Co., Texarkana, have completed moving their plant to the round house of the Cotton Belt Railroad, doubling their capacity and their storage area. They have installed a new hopper system from **Fertilizer Equipment Sales Co.,** Atlanta, and a new **Stedman** bagging unit of 30-40 tons capacity, according to **H. J. Trammell.** Their new address is South Lelia and Baumont Sts.

* * *

Standard Sulphur Co. will spend $1,500,000 to expand its facilities. This includes purchase of a second mobile sulphur plant to work the Bryan Dome, and to expand the present working at Damon Mound, Brazoria County.

UTAH

Westvaco's mineral division of **Food Machinery and Chemical Corp.** has acquired 130 acres of phosphate land in Rich County, for the equivalent of $30,000. Food Machinery and Chemical president, **W. N. Williams,** says the property is the "last known large, patented deposit in the West of phosphate rock and shale".

AUSTRIA

Linz nitrogenous fertilizer plant reports 544,000 tons of ammonium lime nitrate in the year ended June 30, against 457,000 tons the year before. Of this only 136,000 tons was absorbed by the domestic market. The concern is planning to expand its gypsum works on the Grundisee to produce 300,000 annual tons for their own ammonium sulphate plants.

BRAZIL

Rio de Janiero has in operation a garbage - into - fertilizer processing plant across the Guanabara Bay, which is the first such plant in South America.

The Ministry of Agriculture has two Norwegian engineers making a survey which may lead to the establishment of a fertilizer plant, probably in Olinda, Pernambuco.

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89.6% of our customers who used L. C. Sleeves and other internal sleeve type bags have switched to KRAFT-lok — without any increase in cost.

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5. Slows up spilling in filling.
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Grace Nitrogen Adds

3 new counties

to America's farmland

Opening this fall in Memphis, Tennessee, is a plant which will produce 72,000 tons of nitrogen annually in the form of urea and anhydrous ammonia. That's enough nitrogen to boost America's corn production by more than 50 million bushels – it's like adding three counties of rich farmland to the nation.

Corn is only one example. Actually, there will be many applications for this nitrogen: as fertilizer for other crops, as a protein source for feed supplements, and for industrial uses like the manufacture of plastics, synthetic fibers, and pharmaceuticals, and in petroleum refining.

The Memphis plant's output provides agriculture and industry a *dependable* source, backed by a world of experience.

FOR UREA AND AMMONIA LOOK TO

GRACE CHEMICAL COMPANY

HANOVER SQUARE, NEW YORK, N. Y. • ATLANTA, GA. • CHICAGO, ILL. • MEMPHIS, TENN.

Personals . . .

CANADA

Nitro-Chemicals, Ltd. is the name of the company being formed in Calgary, which we touched on briefly in July, data being quite incomplete at that time. **T. L. Brook,** president of **New British Dominion Oil Co., Ltd.** states that his company will have a substantial equity, as will **Ford, Bacon & Davis,** New York, engineers; **Frank McMahon** of **Pacific Petroleum, Ltd.** and others.

The fiscal set-up calls for an $18,000,000 petrochemical plant, to be located in Southern Alberta, which will use as its exclusive source of natural gas the Etzikom field. Financing plans are now being negotiated.

EL SALVADOR

Ministry of Agriculture and Livestock must issue a certificate of approval before fertilizers and pesticides (and some other chemical items) may be imported, manufactured or sold.

INDIA

The great **Sindri** fertilizer plant is not producing the self-sufficiency which India expected, so great is the demand for ammonium sulfate, and the Government is said to be considering the importation of 100,000 long tons, instead of being in a position to export as was planned. Growing application of modern cultivation methods is expected to increase even further the domestic need.

* * *

Pesticides will soon be coming off the line in the Government plant near Delhi, some 700 annual tons, which are expected to be largely consumed by the Ministry of Health's antimalaria program.

JAPAN

The Ammonium Sulphate Industry Association forecasts that Japan's ammonium sulphate exports for the year which began last month will go over 100,000 tons over last year. Japan is expected to produce some 2,400,000 tons and to export 600,000 tons in 1954-55.

Pierce Vandercook, for 21 years Chicago Heights division manager for **Armour,** has retired. He joined Armour in 1915. He will occupy his leisure with civic work for Chicago Heights area.

* * *

J. Arthur Crawford, after 45 years of service to **Coronet Phosphate,** Plant City, Florida, has retired from his post as chief accountant. Coronet is a subsidiary of **Smith-Douglass.**

* * *

Charles M. Shinn, for 20 years general manager and secretary of **Growers Fertilizer Cooperative,** Lake Alfred, Florida has retired, and **Paul N. Simmons,** former assistant, has been moved up to Mr. Shinn's post, and will also act as secretary.

* * *

Smith-Douglass announces the appointment of **Robert V. Peabody** as general traffic manager. This is a new position with Smith-Douglass. Mr. Peabody left the **U. S. Industrial Chemicals Co.** division, **National Distillers,** as a rate analyst to take the new post.

* * *

M. K. McConnell has joined the agricultural chemicals sales department, **Commercial Solvents Corporation,** it was announced recently by **Clyde Marshall,** general manager of the Department.

From CSC's offices at Sterlington, Louisiana, Mr. McConnell will handle the sale and distribution of CSC ammonium nitrate to the fertilizer trade in Louisiana, Mississippi, Arkansas and Texas.

* * *

Two recent promotions at the **Chase Bag Company's** General Laboratory, located at Chagrin Falls, Ohio: Named as chief chemist is **Russell F. Jagoditsh,** head of the quality control department at the company's paper mill for the last two years. **Jack W. Means** has been appointed assistant chief chemist. He has been active in the Chase Bag laboratory since 1952.

Allen Daniels succeeds Mr. Jagoditsh as head of the paper mill quality control department.

* * *

S. D. Fleet, vice president and general sales manager, of **The Albemarle Paper Mfg. Co.,** Richmond, Virginia, has announced a number of personnel changes in the Company's Multiwall bag division:

John R. Clements, formerly midwestern sales manager, becomes sales manager of the multiwall bag division. He will continue to maintain his office in the Daily News Building, Chicago.

Rufus Roberts, formerly sales coordinator in the home office in Richmond, becomes assistant to the sales manager with headquarters in Chicago.

Other members of the midwestern sales district are **Dirk Young** in Chicago, **Robert Drury** in Kansas City, **Douglas Hayward** in Des

Spencer Changes

J. R. Riley, Jr., vice-president in charge of sales of Spencer Chemical Company, Kansas City, Mo., has resigned this position, Kenneth A. Spencer, president, has announced. Mr. Riley will continue, however, to be active in the management of the company as a consultant, director and member of the Executive Committee.

J. E. Culpepper, formerly general sales manager, was elected vice-president and will continue to serve as general sales manager.

Concurrently, three sales division promotions were announced by Mr. Culpepper. Harold R. Dinges, formerly director of product sales, was named assistant general sales manager; George V. Taylor, director of sales development, has become director of product sales; and E. W. Segebrecht, assistant to the general sales manager, has been named director of sales development.

Mr Riley joined Spencer in 1942; Mr. Culpepper in 1946; Mr. Dinges joined them in February, 1947; Mr. Taylor in April of 1942; Mr. Segebrecht in August of 1952.

Culpepper

Moines, **Howard Gulden** in Minneapolis, and **S. C. Walker, Jr.** in Louisville.

The eastern sales district, with headquarters at 21 West Street, New York City, is headed by **Deane Wicks.** Operating from this district are **Harry Houser,** headquarters Buffalo, and **Robert Walters** in New York City.

Tom Athey heads the southeastern sales district with headquarters in Baltimore. **George Hayes,** Roanoke Rapids, N. C., operates from this district.

T. H. Bacon, formerly in paper sales, is transferred to the multiwall bag division and becomes sales coordinator in the home office in Richmond.

* * *

Appointment of **Dr. William E. Collins** to the technical staff of the chlorinated products division of **Diamond Alkali** was announced by **C. E. Lyon,** vice president and division manager.

Dr. Collins has already assumed his new post. He will be concerned chiefly with development of new agricultural chemicals as well as technical service on Diamond's present products having agricultural applications.

* * *

Hans Stauffer, president, **Stauffer Chemical,** has announced the appointment of **Robert U. Haslanger** to the administrative staff. Formerly general manager of sales of the Texas division, **Monsanto Chemical,** Mr. Haslanger was more recently director of sales of its plastics division. He is a member of the American Chemical Society and a chemical engineering graduate of the University of Wisconsin. Mr. Haslanger's new appointment is effective immediately, and he will headquarter in the Stauffer New York office.

* * *

Dr. Donald Folsom, head of the department of plant pathology at the **University of Maine** and a member of the staff of the **Maine AES** was presented with an honorary life membership in the **Potato Association of America,** in recognition of of more than 36 years spent mostly

Promoted as of September first to the newly-created position of operating manager of International Minerals & Chemical Corporation's Plant Food Division is John D. Zigler, left, who will have line authority over eight area managers in the field and be responsible for supervising production and sales of the division's 26 chemical fertilizer plants. He has been associated with the company for more than 20 years. F. S. Walters, not shown, has been appointed acting production manager, replacing F. H. Perrin who resigned to establish a business of his own in the building industry. Another new position will be held by Don W. Allison, right, who becomes industrial engineering supervisor for the Plant Food Division. Allison has been a member of the company's Central Engineering staff for the past two years.

Several promotions in the multiwall bag sales division of Union Bag and Paper Corporation have just been announced by Sydney K. Bradley, vice president in charge of multiwall bag sales.
J. J. Patterson, Jr., left, a member of the Union organization since 1936, has been appointed to the newly created position of field sales manager. Under the new company set-up, Mr. Patterson's old sales district is being split up into two sections: northeast and southeast, each headed by a District Manager. William W. Dipman, center, who joined the company in 1942, has been named as northeastern district manager. William T. Bess, Jr., right, has been named as southeastern district sales manager. Mr. Bess joined the Union organization in 1950.

Dinges

Taylor

Segebrecht

Jack Rutland

August 13, 1954

Commercial Fertilizer
75 Third Street, N. W.
Atlanta, Georgia
Gentlemen:
Southern States Phosphate and Fertilizer Company, Savannah, Georgia, regret to announce the resignation of John W. Rutland, vice president in charge of sales, effective **September 1.**
Mr. Rutland is president of the Western Carolina Phosphate Company and Smoky Mountain Fertilizer Company in Waynesville, North Carolina. Both of these companies are growing rapidly and he feels that he must devote his entire time to his personal interests.
Mr. and Mrs. Rutland are planning to move shortly to Asheville, North Carolina, and take up permanent residence.

F. R. Dulany
President

on potato disease research, and for the many publications written by him for the benefit of the potato industry."

Dr. Folsom attended the annual meeting of the Potato Association, August 24-28, and the award was presented to him there.

* * *

H. A. Kennington, general sales manager of the **Raymond Bag Company,** Middletown, Ohio, announces the following appointments to their sales staff:

James M. Green, with headquarters in Louisville, will be responsible for sales in Southern Indiana and the entire State of Kentucky. **A. P. Wolff,** with headquarters in Detroit, will service Raymond customers in northern Indiana and the entire State of Michigan. Both men will handle sales for Raymond's complete line of multiwall paper shipping sacks.

Desmond B. Hosmer, has been named manager of the Anniston, Ala., plant of **Monsanto Chemical Company's** organic chemicals division.

Wallace K. Belin, whom Hosmer replaces, will become production manager of the Monsanto plant now under construction at Kearney, N. J. (See Map)

The changes, effective September 1, are in line with the recently announced transfer of administrative control of the Alabama plant from the Inorganic division to the Organic division.

* * *

Dr. **M. F. Fogler,** executive vice-president of **Nitrogen Division,** will address the Chemicals and Textiles breakfast session of the sixth annual Virginia World Trade Conference to be held September 30 and October 1 at Hotel Chamberlin, Old Point Comfort, Va. **Andrew B. Shea,** first vice president of **W. R. Grace & Co.,** will deliver a report on Latin America at the Friday luncheon meeting. **Edward M. Melton,** vice president and general manager of **Allied Chemical International Corp.,** will participate in a panel discussion of "Trade Around the World" during the Friday morning session.

* * *

The new ammonia plant under construction west of Tuscola, Illinois will be operated with the sulphuric acid plant of the **U. S. Industrial Chemicals** under one management according to an announcement made recently.

E. J. Patterson has been named manager and **William E. Powell** assistant manager. Mr. Patterson joined National Distillers in November 1953. Mr. Powell was formerly with the **Mississippi Chemical** and **DuPont.**

Ralph Lorentz has been made area superintendent of the ammonia plant. He has had charge of the acid plant since May, 1953. He had been employed in the Hawaiian Islands with the **Pacific Refining Co.**

William Ferguson is now area superintendent of the acid plant. He was brought to Tuscola by National Distillers April 15, 1953.

Charles E. Swank has been made office manager and **Eugene Sprague,** is personnel manager. **Howard Brannon** is chief clerk.

* * *

W. S. Van de Mark has resigned as assistant general manager and treasurer of **Fruit Grower's Supply Company,** Los Angeles. **H. A. Thomas, Jr.** has been made assistant general manager. **L. A. Yoast,** secretary since 1944 has been made secretary-treasurer.

* * *

St. Regis Paper has announced the following changes in the sales personnel of its Multiwall Packaging Division.

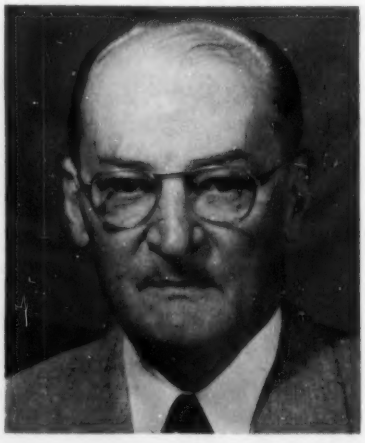
William T. Orr has been appointed assistant manager of the eastern district of the multiwall packaging division. He was formerly sales supervisor for the St. Louis and Kansas City territories.

Michael T. Biondo has assumed sales responsibility for the majority of the eastern district multiwall bag accounts formerly handled by **Dean G. Abercrombie,** who has been placed in charge of the Buffalo office.

Clifford E. Freeman succeeds Mr. Orr as manager of the St. Louis office, and he will handle multiwall bag sales in the St. Louis territory. He is assisted by **W. Malcolm Lowry** and **Robert F. Callahan,** who recently joined St. Regis.

Jack Larigan, who was formerly

Blaw-Knox Company of Pittsburgh, Pennsylvania, recently announced the transfer of Carl F. Weiblen from Pittsburgh to Chicago as Sales Engineer for the Blaw-Knox line of Clamshell Buckets for industrial use.
Mr. Weiblen is a veteran in the clamshell bucket business, with more than 15 years' experience in the Blaw-Knox Bucket Division, preceded by 20 years with another well-known bucket manufacturer.



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ARKELL & SMITHS' customers buy the quality-control and outstanding service developed from close to a century of manufacturing experience.

A&S

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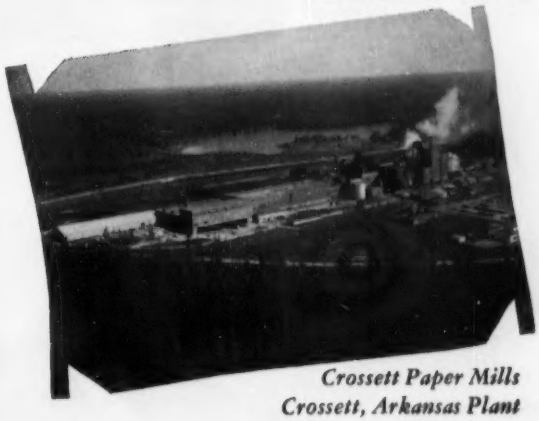
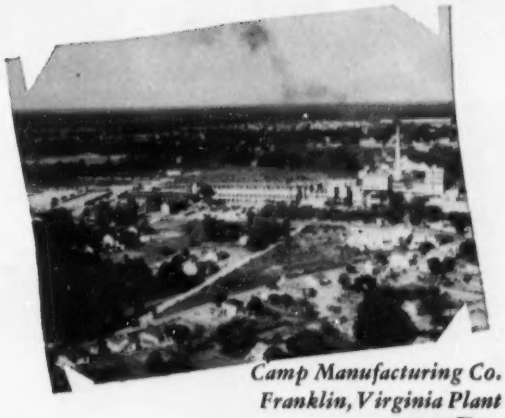
Bag Plants at: Canajoharie, N. Y. • Wellsburg, W. Va. Mobile, Ala. • Hudson Falls, N. Y.

Hollingsworth & Whitney Co. Mobile, Alabama Plant



Crossett Paper Mills Crossett, Arkansas Plant



Camp Manufacturing Co. Franklin, Virginia Plant

West Virginia Pulp & Paper Co. Charleston, S. Carolina Plant

UNION SPECIAL CHANGES

Union Special Machine Company, Chicago, announces recent personnel changes: **1.** Elmer E. Gratsch, with the company for 47 years, is retiring as manager of Union Special's St. Louis office. **2.** Zachary X. Bennett, formerly assistant manager of the St. Louis office, with them since 1942, has been appointed manager of that branch. **3.** Hugh L. Gratsch, with Union Special since 1941, has been a representative in the Texas territory and now steps up to succeed Mr. Bennett as assistant manager of the St. Louis office. With the new appointment of Hugh Grastch the territory formerly held by him is being divided between **4.** Harry E. Pearson and **5.** Emmett Richards, both of whom have been with Union Special since 1951. Mr. Pearson, who will cover most of the state of Texas, will headquarter in San Antonio, where his mailing address is P. O. Box 201. Mr. Richards, whose mailing address is P. O. Box 5013, Dallas, Texas, will cover most of the state of Oklahoma. **6.** John W. Bradberry, with the company since 1949, has been appointed field representative for the Atlanta and North Georgia territory. For increased services to Union Special customers in the Los Angeles area. **7.** E. Allen Trimble has been appointed representative of the western half of Los Angeles and the San Diego and Santa Barbara areas. Charles B. Hauk will continue to cover the eastern half of Los Angeles.

sales supervisor of the Minneapolis Territory of the multiwall packaging division, has been transferred to the Birmingham, Alabama office as district manager of the Southwestern District. Mr. Larigan joined the sales promotion department at the New York office in 1946.

He is succeeded by **William A. Foran,** who has been placed in charge of the Minneapolis office.

Stuart Versfelt, who was formerly with the general sales department at the New York office, has been appointed St. Regis sales representative in the Minneapolis territory and will work with Mr. Foran. Mr. Versfelt joined St. Regis in June of 1950.

Jack Morris has joined the Minneapolis office as field service and sales representative for that territory.

* * *

Several promotions in district office personnel have been made by The **Jeffrey Manufacturing Company,** Columbus, Ohio as announced by **J. E. M. Wilson,** vice president in charge of sales.

Walter J. Hulsey, a sales engineer with the Birmingham district office, has been named district manager, conveyor division, there. Joining him as sales engineer in that office is **J. Thomas Berg** from the home office.

Howard S. Davies, former conveyor division district manager in the Chicago district office, has been moved to a similar post in the Pittsburgh district office. Replacing him in Chicago is **James B. Green,** for a number of years assistant to the chief engineer at the Jeffrey home office.

Being transferred from Pittsburgh are **E. E. Balduff** and **Travers W. Nelson,** both sales engineers. The former has gone to Orlando, Florida, to work in the Jacksonville district office territory. The latter has become manager of the district office in Jacksonville.

William A. Cheney has been transferred from the merchandise sales department in Columbus to the post of sales engineer in the New York district office. **Vernon L. Ekblad,** former sales engineer in the general engineering sales division at Columbus, has taken a similar position in the Houston district office. **Robert F. Farrell** has become a sales engineer in the Columbus district office, replacing **Robert D. Henning** who has moved from that post to a similar post in the home office products engineering sales division. **Robert M. Dunn** has become associated with the Knoxville district office in a sales engineer capacity. **George S. Kepley** has been transferred from coal preparation engineering sales in the home office to the Pittsburgh district office, as has been **Edward G. Braun,** former sales engineer with the Buffalo district office.

Following these shifts the Conveyor division of the company has held a series of regional sales meetings for the company's field men. The Conveyor division is composed of nine major sales divisions: Merchandise, Crusher, Traylor Vibrating Equipment, Distributor, General Engineering, Foundry Engineering, Sanitation Engineering, Coal Preparation Engineering, Export. General sales manager is **Lincoln Kilbourne.**

The Jeffrey Manufacturing Company is one of the world's largest manufacturers of conveying, processing, and mining equipment with world-wide representation and overseas plant facilities. The Columbus plant occupies some 50 acres and employs more than 3,000 persons.

* * *

Harry V. Knowles has been appointed assistant to Sales Manager **Ernest H. Heath, Jr.,** Flexible Packaging Division, **Arkell & Smiths.** Mr. Knowles was formerly associated with the Packaging Sales Division **Dobeckman Co.** and later with **Shellmer Products Corp.** This Division of Arkell & Smiths was established to handle the output of the bag-making plant at Hudson Falls, N. Y., recently acquired by A. & S., which now offers the packaging industry a complete line of stock and custom products.

J. O'H Sanders

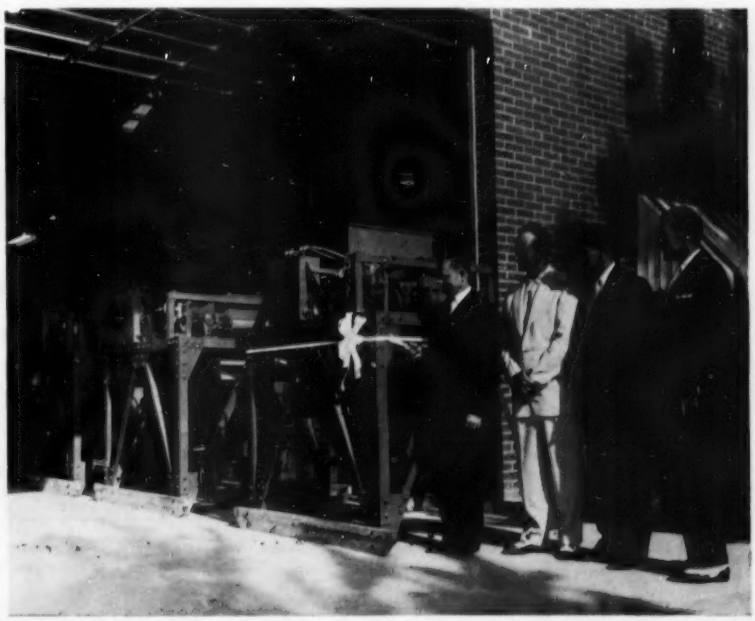
James O'Hear Sanders has been commissioned to make a survey of import-export possibilities in various lines in several major European countries. The trip was originally planned as a vacation and sentimental journey, but when certain commercial concerns learned that Mr. Sanders had resigned as salesmanager of Fulton Bag, and planned the foreign tour, he was at once asked to take the assignment. Jim and his wife Josephine are sailing for Belgium late this month, taking a motor-car. Over a three month period they will visit most of the European countries, winding up in Spain.

The sentimental phase of the journey revolves around the fact that Jim went to school in Nancy, France; Josephine studied music in the Conservatoire de Musique in Brussells. They look forward keenly to revisiting these scenes.

While en tour, Jim has promised to report to Commercial Fertilizer readers his pertinent observations of agronomy in the various countries they will visit. Upon his return he will announce the plans he has made for the future.

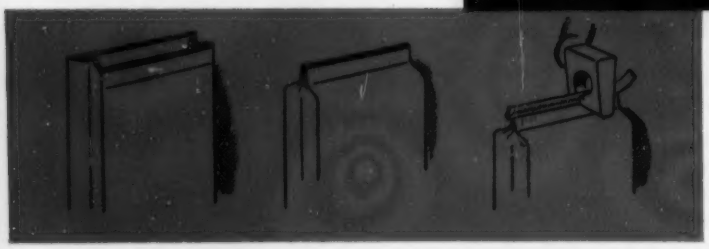
The Highway Equipment Company, Inc. of Cedar Rapids, Iowa announces the appointment of George E. Ford of Decatur, Georgia as southeastern district manager. He will serve dealers in the states of Florida, Georgia, South Carolina, North Carolina, Tennessee, Alabama and Mississippi with headquarters in Decatur.

A group of Union Bag & Paper Corporation executives attended the formal opening of the Inglett & Corley, Inc. plant at Augusta, Georgia recently. This new 9600 square foot factory will enable the company to substantially increase production of the I & G bagger, an automatic weighing and bag filling machine used for packaging of fertilizer and other free flowing materials. Shown cutting the ribbon on the first bagging machine off the new plant's production line is company president W. L. Inglett. Interested onlookers are C. M. Inglett, secretary-treasurer; W. F. Jacobi, packaging machinery manager of Union Bag & Paper Corporation; S. K. Bradley, vice president in charge of multiwall bag sales of Union Bag & Paper Corporation. Mr. Bradley is also a member of the board of directors of Inglett & Corley. Union Bag & Paper Corporation is exclusive Sales Agent for the Inglett & Corley automatic weighing and bag filling machine.



Our pioneering pays off in profits for you

BAGPAK — **PREFORM MULTIWALLS**



It's the Crease that does it!

- **Makes bagtop forming easier**
- **Speeds Bag closing**
- **Insures better filling**
- **Produces a better-looking package**

Bagpak, the first to introduce multiwall bags to many industries, then improved them with the PREFORM top for easier, time-saving uniform closing. Now the PREFORM feature at the bottom means easier opening for faster, more complete filling.

You profit because your bags are filled, formed and closed in record time. You package bigger tonnage daily—and there's no waste.

Asking for complete information and prices places you under no obligation. Just write today to: C-19

International Paper Company, Bagpak Division
220 E. 42 Street, New York 17

International Paper COMPANY
BAGPAK DIVISION

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US C of C Appoints Ag Committee

The Chamber of Commerce of the United States announced the completion of its Agricultural Department Committee for 1954-55. The responsibility of this committee is to advise the Chamber on the work of its Agricultural Department for the coming year. Recognizing the importance of farming as a business, the committee will deal with many problems affecting the success of agriculture and of the related industries and businesses serving farmers.

Made up of representatives from all the major agricultural areas of the nation, the committee includes: W. B. Camp, Chairman, W. B. Camp & Sons, Bakersfield, California; Robert C. Appleman, President, Arkansas Valley Seeds, Inc., Rocky Ford, Colorado; Walter Atzenweiler, Agricultural Commissioner, Kansas City Chamber of Commerce; D. Howard Doane, Chairman of the Board, Doane Agricultural Service, Inc., St. Louis, Missouri; L. Y. Ballentine, Commissioner of Agriculture, State Department of Agriculture, Raleigh, North Carolina; Joseph W. Britton, Manager, Agricultural Chemicals, Dow Chemical Company, Midland, Michigan; David Burpee, President, W. Atlee Burpee Company, Philadelphia, Pennsylvania; L. Roy Hawes, Commissioner of Agriculture, Department of Agriculture, Boston, Massachusetts; Wallace Hicks, President, Wilson and Toomer Fertilizer Company, Jacksonville, Florida.

A. E. Darlow, Dean, Oklahoma A & M College, Stillwater, Oklahoma; Howard Hill, President, Iowa Farm Bureau Federation, Des Moines, Iowa; Frank W. Hussey, President, Nat'l. Council of Farmer Co-ops, Pres., Maine Farm Bureau Fed., Presque Isle, Maine; Henry T. McKnight, President, National Farm Chemurgic Council, Washington, D. C.; Harry E. Umphrey, President, Aroostook Potato Growers, Inc, Presque Isle, Maine; Alexander Nunn, Executive Editor, The Progressive Farmer, Birmingham, Alabama.

NORTHERN CHEMICAL EXPANDS FACILITIES AT SEARSPORT

Northern Chemical Industries, Inc., at its tenth annual meeting at Searsport, Maine, reelected present officers and added two new vice presidents: Dr. C. LeRoy Carpenter, present director of research, formerly with Grace Chemical Company; and James C. Totman, present manager of the Bangor office of Summers Fertilizer Company. Mr. Totman is also assistant treasurer and director of Summers. Directors of Northern Chemical declared a dividend of $3.00 per share on the class "A" common stock and $3.50 per share on the class "B" stock.

President J. E. Totman of Baltimore, Maryland stated favorable progress was being made toward enlarging the Searsport facilities of Northern Chemical so that ultimately a sizeable chemical center would develop in the area. Chemicals already being manufactured by Northern Chemical at Searsport are: sulfuric acid, superphosphate, sulfate of ammonia, and liquid alum. Contemplated expansion for which a government certificate of necessity has been issued covers a 120 ton per day anhydrous ammonia plant as well as nitric acid, nitrogen solutions and nitraphosphatic facilities.

In anticipation of the expansion at Searsport, stockholders voted to increase the authorized "B" stock to 250,000 shares with present holders receiving ten shares of new for one of old.

A public announcement concerning final plans will be issued in the near future.

BRADLEY & BAKER OPENS TWO NEW OFFICES IN SOUTH

Two new offices to serve eight southern states have been announced by Bradley & Baker, distributors of basic fertilizers, it was announced by Albert B. Baker, Jr., a general partner of the company.

The two offices include one in Atlanta, which was opened for business on August 1, and one in Norfolk, which will be placed in operation on September 1.

The Atlanta office will be headed by Richard R. Mehrhof, and is located at 1401 Peachtree St., N.E. It will serve the states of South Carolina, Georgia, Florida, Alabama and Tennessee.

In Norfolk, the new district sales office will be located in the Royster Building and will be under the management of Clarence J. Ball. The territory to be covered by this office will include North Carolina, Virginia and Maryland.

R. R. Mehrhof

Clarence J. Ball

Enough to make the difference...

ANOTHER HUDSON

the Seal of Certified of the U. S. Testing

INDEPENDENT PROOF THAT THE SACKS THAT PROTECT YOUR PRODUCT ARE CONSISTENTLY THE BEST THAT MONEY CAN BUY

Users long believed that Hudson Multiwall Sacks offered the surest, safest protection for their products. To prove it we went to the independent testing service, The U. S. Testing Company, asked them to find out.

To make their comparisons, U. S. Testing buys in the open market samples of Hudson Multiwalls, along with sacks of other manufacturers — tests them by standards far more severe than the toughest service they'll ever get in actual use.

The result: of all multiwall sacks tested, only Hudson received the coveted Seal of Approval. And note that this testing is continuous . . . new tests are made *each* month. The U. S. Testing Seal, found only on Hudson Multiwalls, is your proof that Hudson sacks are *regularly* tested and certified for performance.

For you: this means you can now assure your customers that your products receive the same fine quality control from raw material to *delivered* product. You can show dramatically with the Hudson Multiwall Seal of Approval that product, production and packaging are consistently the best money can buy! Your Hudson representative can give you the details behind "certified" performance!

MULTIWALL FIRST...

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YES! Please send us Hudson's 46-page illustrated book on "What to Look for in a Dependable Source of Supply."

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ASSOCIATIONS

PROGRAM
for
EIGHTH ANNUAL CONVENTION
ASSOCIATION OF AMERICAN FERTILIZER CONTROL OFFICIALS
Shoreham Hotel, Washington, D. C.
October 15, 1954
Members of the fertilizer industry and others interested are cordially invited to attend.

Morning Session

8:30-9:30—Registration

Reading of the Minutes of Preceding Meeting

Report of Secretary-Treasurer—B. D. Cloaninger, Clemson, South Carolina

Roll Call by States

Announcements and Appointment of Committees

Address by President—Henry A. Davis, Durham, New Hampshire

Address—Dr. Russell Coleman, President, National Fertilizer Association

Address—Paul T. Truitt, President, American Plant Food Council, Inc.

Public Relations—Rodney C. Berry, State Chemist, Richmond, Virginia

Non-Farm Consumption of Fertilizers in 1952-53—Walter Scholl, Hilda M. Wallace, U. S. D. A., Beltsville, Maryland

Fertilizer Placement—Dr. W. L. Nelson, In Charge, Soil Fertility Research N. C. State College, Raleigh, N. C.

Warning and Caution Statements—John D. Conner, Attorney, National Agricultural Chemicals Association Washington, D. C.

Lunch—12:30 p.m.

Afternoon Session—2:30 O'Clock

Report of Investigators

General Terms—M. H. Snyder, Charleston, West Virginia

Nitrogen Products (Organic)—M. P. Etheredge, State College, Mississippi

Nitrogen Products (Inorganic)—J. W. Kuzmeski, Amherst, Massachusetts

Phosphorus—J. F. Fudge, College Station, Texas

Potash—R. W. Ludwick, State College, New Mexico

Calcium, Magnesium, and Manganese — J. B. Smith, Kingston, Rhode Island

Boron—R. C. Berry, Richmond, Virginia

Mixing and Segregation—M. B. Rowe, Richmond, Virginia

Registration Forms—John L. Monaghan, Topeka, Kansas

Publications—W. S. Thompson, Reynoldsburg, Ohio

Specimen Labels—F. W. Quackenbush, Lafayette, Indiana

Tonnage Reports — Parks A. Yeats, Oklahoma City, Oklahoma

Pesticides in Fertilizers—A. B. Lemmon, Sacramento, California

Afternoon Session

Report of Investigators

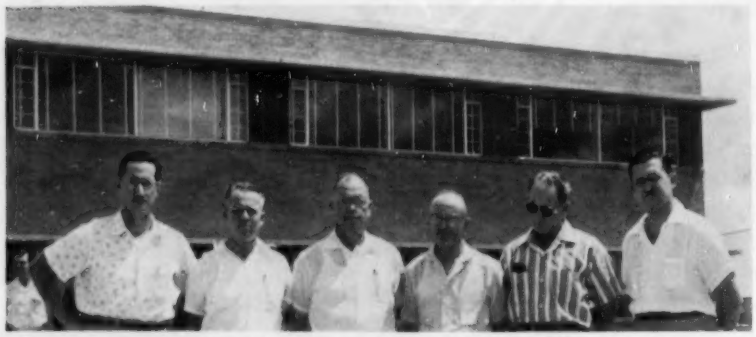
Specialty Fertilizers—E. A. Epps, Jr., Baton Rouge, Louisiana

Report of

States Relations Committee—H. J. Fisher, New Haven, Connecticut

Model State Fertilizer Bill—S. B. Randle, New Brunswick, New Jersey

Executive Committee—J. D. Patterson, Salem, Oregon



State chemists in charge of fertilizer control in Louisiana, New Mexico, Texas and Oklahoma, attending the Southwestern Fertilizer Conference and Grade Hearing in Galveston, Texas, July 21-23, were escorted through Phillips Chemical Company's manufacturing facilities at Adams Terminal on the Houston ship channel. The officials and Phillips representatives pictured here on the tour are, from left, Leo Johnstone, assistant plant superintendent, Adams Terminal; Dr. E. A. Epps, Louisiana State University; Dr. Frank Fudge, Texas Agricultural Experiment Station; Dr. R. E. Ludwick, New Mexico State College; Parks Yeats, Oklahoma City; and R. D. Evans, assistant division manager for Phillips Petroleum Company's Houston sales division. Phillips fertilizer producing installations at this site include anhydrous ammonia, triple superphosphate, and ammonium sulfate plants.

Arkell And Smiths' New Poly-Kote Packaging Sheet

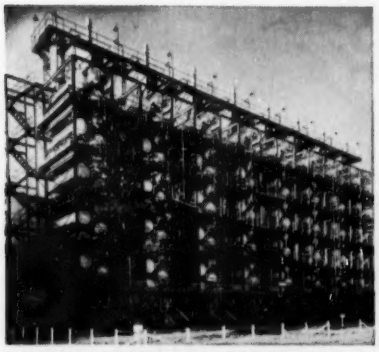
Arkell and Smiths has developed a sheet coated with a combination of polyethylene and wax for use in multiwall bags. This new product—Poly-Kote—will be incorporated into multiwall bags to sell for less than bags made with straight polyethylene.

Tests run by Arkell and Smiths show that the new Poly-Kote is equally acid and alkali resistant as straight polyethylene, and that it is well suited for packaging hygroscopic materials such as synthetic resins, chemicals, fertilizers, etc. Poly-Kote was developed by A & S packaging engineers in response to the demand of its customers.

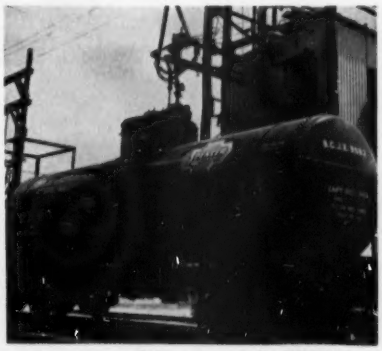
Established in 1899, Fowler Fertilizer Company at Covington, Georgia is a leading mixer in the Peachtree state. This company has worked closely with farm leaders and helped to make this the outstanding grassland area of Georgia.

Robert R. Fowler is president of the firm. He has helped promote development of grassland farming.

Fowler Fertilizer Company
. . . Another Spensol User



Equipment like this is used by Spencer in producing SPENSOL (Spencer Nitrogen Solutions) for some of America's best known mixers.



On time deliveries of SPENSOL solutions have helped to build Spencer's reputation for dependable service to fertilizer mixers everywhere.

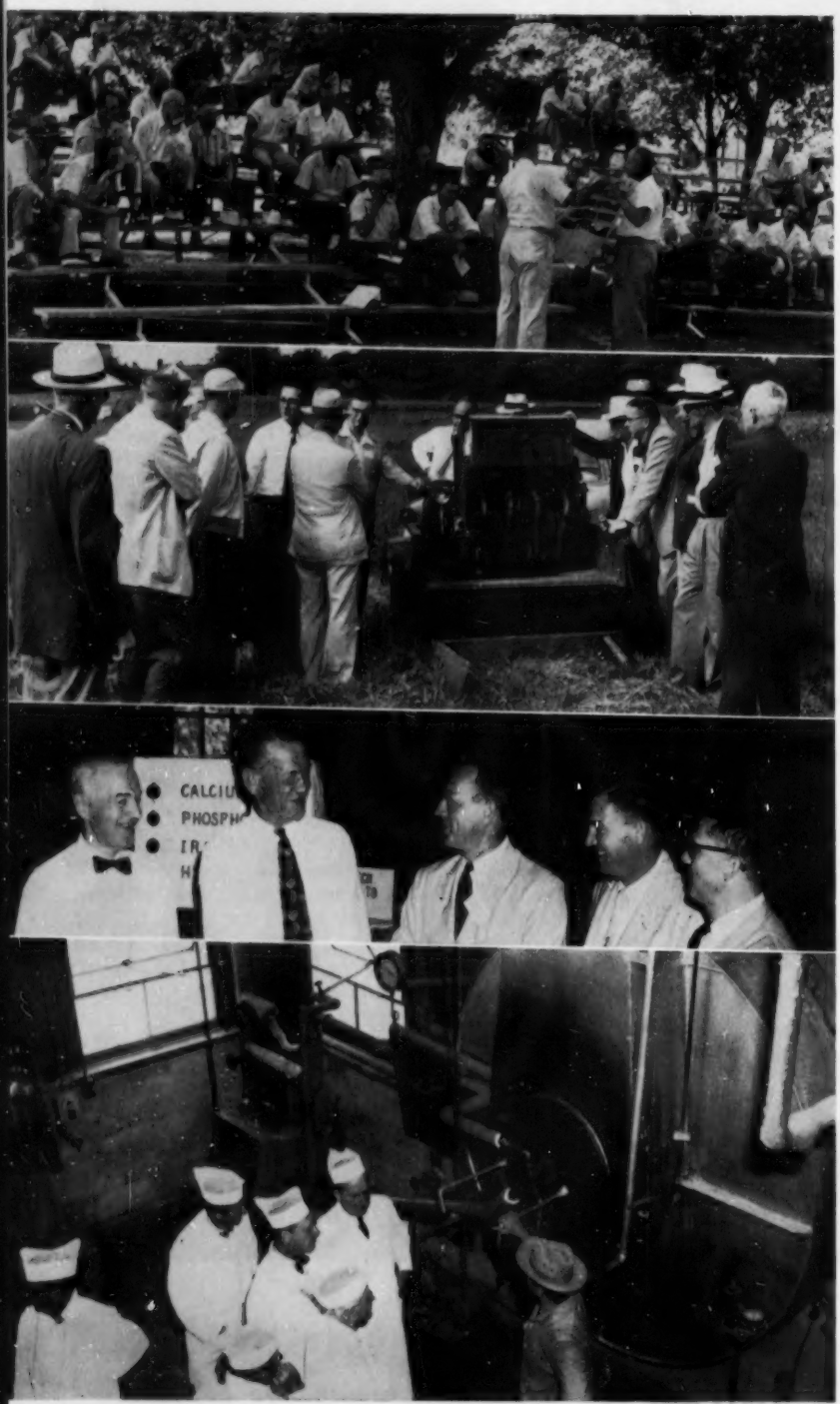
Multi-nozzle solution injector, giving better ammoniation of mixed fertilizer was invented by H. B. Davis of Spencer Chemical Company.

SPENCER®

SPENCER CHEMICAL COMPANY, Dwight Bldg., Kansas City 5, Mo. District Sales Offices: Atlanta, Ga.; Chicago, Ill.; Memphis, Tenn.; Works: Pittsburg, Kans.; Henderson, Ky.; Chicago, Ill.; Vicksburg, Miss.; Orange, Texas (under construction).

America's Growing Name in Chemicals

APFC SPONSORS EDITOR COLLEGE TOURS



1. Outdoor session at Delta Branch Experiment Station, Stoneville, Miss., where Dean Clay Lyle (right foreground) shown with Dr. William L. Giles, superintendent of the station, presented a background of Mississippi agriculture prior to taking the editors on an all-day tour of cotton and corn fertility plots, supplemental irrigation plots, and other operations where fertilizer is a major factor in efficient crop production. 2. Editors inspect new seed and fertilizer placement machine on one of University of Wisconsin's experimental farms. 3. At Rutgers University are Dr. Firman E. Bear, internationally known soil scientist and editor-in-chief of **SOIL SCIENCE;** Dr. W. H. Martin, dean of agriculture; Paul T. Truitt, president of the Council; Eugene Meyer, **HOARD'S DAIRYMAN;** and Jim Roe, managing editor of **SUCCESSFUL FARMING.** Following crops-and-soils discussion in which the University's leading scientists participated, the editors toured the research plots where science is hitched to the plow. 4. Hearing the story of how liquid sulfur is burnt for conversion into sulfuric acid for treating phosphate rock in the production of superphosphate at F. S. Royster Guano Co. plant in Madison.

Editors of 17 of the nation's most prominent farm magazines were guest of the American Plant Food Council on a four-state tour of selected land-grant colleges where they visited experimental farms and plots and heard progress reports on agricultural research in the field of sound land management, August 16-21. The Tour was made in a chartered (DC-3) plane.

Itinerary for the tour included: August 16—University of Wisconsin, Madison, Wisconsin; August 18 — Delta Branch Experiment Station, Stoneville, Mississippi; August 19—North Carolina State College, Raleigh, North Carolina; August 20 —Rutgers University, New Brunswick, New Jersey.

At all four land-grant colleges, the editors heard lectures, reports and general information on the latest developments and progress in the field of agricultural research and sound land management. Following the lectures and briefing by the college of agriculture and experiment station staff members, the editors visited experimental farms and plots.

Guests on the tour were: Al Bull, Associate Editor, Wallaces' Farmer and Iowa Homestead; Ferdie Deering, Editor, The Farmer-Stockman; Carl Deitemeyer, Managing Editor, The Nebraska Farmer; M. C. Gilpin, Editor, Pennsylvania Farmer; Milton Grinnell, Editor, Michigan Farmer; Delmer Groves, Associate Editor, The Ohio Farmer; Wallace D. Inman, Associate Editor, Capper's Farmer; W. H. Kircher, Managing Editor, The Farmer; W. C. Lassetter, Vice President and Editor, The Progressive Farmer; C. L. Mast, Jr., Editor and Publisher, Agricultural

"The Council and its members consider it a privilege to be host to such a distinguished group of editors, whose interests and efforts parallel our own in terms of translating and making available the practical findings of agricultural research, which will result in a better informed and consequently more efficient farming population."

"The staffs and research personnel at land-grant colleges are rendering outstanding service in the field of agricultural research and, as farmers benefit therefrom, so do industries serving farmers. We are confident that the tour will give added emphasis to the practical research of our colleges and experiment stations, without which, farmers could not continue effectively their efforts to lower the per unit cost of production—all in the interest of the consumer as well as themselves."—Paul T. Truitt, President, American Plant Food Council.

Leaders' Digest; Eugene C. Meyer, Associate Editor, Hoard's Dairyman; L. R. Neel, Farm and Ranch—Southern Agriculturist; Jim Roe, Managing Editor, Successful Farming; Paul D. Sanders, Editor, The Southern Planter; Lee Schwanz, Associate Editor, Country Gentleman (Better Farming); James C. Thomson, Managing Editor, Prairie Farmer; and Ralph D. Wennblom, Associate Editor, Farm Journal.

In addition to Council President Paul T. Truitt, the Council was represented by Dr. Willard H. Garman, Agronomist and Louis H. Wilson, Director of Information and Secretary.

AP&C Catalog Mailed

A complete descriptive catalogue of all products manufactured by American Potash & Chemical Corporation and its subsidiaries has been published and is being mailed to all customers of the company. Copies of the catalogue are available on request by writing to American Potash & Chemical Corporation, 3030 West Sixth Street, Los Angeles 54, Calif.

AMERICAN CHEMICAL SOCIETY
DIVISION OF FERTILIZER AND SOIL CHEMISTRY
J. D. ROMAINE, Chairman; G. L. BRIDGER, Secretary

Wednesday Afternoon
SYMPOSIUM ON FERTILIZER TECHNOLOGY
J. D. ROMAINE, Presiding

2:00— 1. G. C. ELLIS and R. L. FORMAINI. Colorimetric Determination of Biuret.

2:30— 2. E. J. FOX and W. A. JACKSON. Sorption of Surface Active Agents from Aqueous Solution by Phosphate Rock.

3:00— 3. F. A. RETZKE, G. F. SACHSEL, and R. B. FILBERT, JR. Evaluation of Surfactants for Use in Fertilizer Manufacture.

3:30— 4. W. J. TUCKER. A Plant Scale Controlled Experiment Using Surface Active Agents in Mixed Fertilizer Manufacture.

4:00— 5. RIKIO KUMAGAI and J. O. HARDESTY. Some Effects of Surface Active Agents in Mixed Fertilizers.

4:30— 6. G. L. BRIDGER and H. A. BURZLAFF. Drying of Ammoniated Superphosphates and Mixed Fertilizers.

Thursday Morning
SYMPOSIUM ON FERTILIZER TECHNOLOGY
(Cont'd)
G. L. BRIDGER, Presiding

9:00— 7. W. L. HILL, J. H. CARO, and G. A. WIECZOREK. Surface Area of Natural and Processed Phosphates.

9:30— 8. C. E. WATERS, W. W. ARNOLD, and W. H. PAYNE. Effect of Particle Size Upon the Ammoniation of Superphosphates.

10:00— 9. E. C. HOUSTON and L. D. YATES. Pilot-Plant Production of Diammonium Phosphate Fertilizer from Wet-Process Phosphoric Acid.

10:30—10. PETER G. ARVAN and ROBERT P. LANGGUTH. The Manufacture and Properties of Liquid Fertilizers.

11:00— Business Meeting.

12:15— Divisional Luncheon. EDWIN COX—SUBJECT: Evolution or Revolution—Plant Food Research.

Thursday Afternoon
GENERAL
GEORGE H. SERVISS, Presiding

2:00—11. J. FIELDING REED. Chemical Basis for Soil Testing.

2:30—12. JACKSON B. HESTER. Essential Supplemental Tests for Soil and Plant Diagnosis.

2:50—13. H. P. COOPER. Difference in the Relative Response of Calcium Accumulating and Silicon Accumulating Crop Plants to Potash Fertilization.

3:10—14. A. A. NIKITIN and JULIA P. GOODE. Problems Relating to Trace Elements.

3:40—15. JACKSON B. HESTER. The Value of Leaching Frames in Fertilizer Usage.

4:00—16. N. R. PAGE and H. P. COOPER. Less-Soluble compounds for correcting boron nutritional deficiencies.

4:30—17. C. H. KLINE. Liming with Molybdenum.

Friday Morning
GENERAL
J. D. ROMAINE, Presiding

9:00—18. W. H. MACINTIRE and A. J. STERGES, Fluorine Retentions and Cation Effects from Hydrofluoric Acid Additions to Four Tennessee Soils.

9:25—19. W. H. MACINTIRE, W. M. SHAW, and BROOKS ROBINSON. Fluorides of Potassium and Calcium in Soils. A 5-Year Lysimeter Comparison.

9:50—20. FRANK APP. The Application of Chemistry to Soils and Plants for Increased Efficiency of Crop Production.

10:20—21. J. M. O'DONNELL. EDTA in Crop Production, the Effect of High Level Applications of EDTA on the Metabolism, Trace Element Utilization, and Fertilizer Utilization of Crops in the Field.

11:00—22. E. J. HAERTL, F. C. BERSWORTH, and A. E. MARTELL. Synthetic Amino Acid Chelating Agents and Their Effects in Agriculture.

11:20—23. A. E. FROST, F. C. BERSWORTH, and A. E. MARTELL. Chelates and Trace Elements in Agriculture.

11:40—24. MARTIN RUBIN and F. C. BERSWORTH Synthetic Amino Acid Chelating Agents in Mineral Nutrition.

PESTICIDES

ANTIBIOTIC SPRAY PROVES OUT IN FLORIDA TESTS

A bacterial plant disease, responsible for heavy damage to the multi-million-dollar tomato and pepper crops in sub-tropical Florida, has been controlled for the first time with a spray of two antibiotic drugs used in human medicine, terramycin and streptomycin.

Dr. Robert A. Conover, plant pathologist at the University of Florida experiment station, has issued a bulletin to growers (No. 54-2) summarizing successful large-scale experiments conducted over two growing seasons with agri-mycin, a spray compound of the two antibiotics. The new treatment was particularly effective against bacterial spot of tomato seedlings used for transplanting.

Dr. Conover reported: "In 1953 in a large experiment in a commercial planting, agri-mycin, an agricultural formulation containing streptomycin and terramycin, gave outstanding control of bacterial spot on tomato seedlings." Ninety-five per cent of the treated plants were found usable, whereas only 27 per cent of the untreated plants could be saved.

"Beds sprayed with agri-mycin had an average of 74 per cent disease-free plants, whereas adjacent untreated beds had only 11 per cent," Dr. Conover explained. "Only five per cent of the plants in treated beds were judged unfit for use as transplants, whereas 73 per cent of those in unsprayed beds were considered worthless."

Dr. Conover said millions of seedlings grown for fall and winter row crops are often rendered unfit by the disease. In cases where less severely injured seedlings are transplanted, bacterial spot may be spread throughout the field, especially during the rainy season, he said.

Although streptomycin has been used successfully against the disease by itself, Dr. Conover pointed out that there is a "possibility that resistant strains of the bacterial spot organism may develop following continued use of streptomycin," thus destroying the effectiveness of such treatment. Experiments indicated that bacteria resistant to antibiotics is less likely to occur when terramycin is combined with the other antibiotic.

Dr. Conover reported similar success with infected pepper seedlings, although experiments were conducted on a smaller scale and are being continued.

Experimental work with antibiotics for the control of plant diseases has been carried on by the U. S. Department of Agriculture, state and university experiment stations since the fall of 1952.

Preliminary reports have indicated that a number of bacterial blights hitherto considered incurable are checked by agri-mycin. Halo blight of beans and fireblight of apples and pears have been brought under control in experimental plots at the U.S.D.A. station, Beltsville, Maryland, the Ohio State Experiment Station, and at the University of Missouri. Preliminary success has also been reported after research on peaches, walnuts, cotton and tobacco diseases of bacterial and fungus origin.

During the past year agri-mycin has been distributed for experimental purposes exclusively. As of July 15, it was made available to Florida growers.

Bill Signed To Restrict Use Of Spray Chemicals

President Eisenhower has signed the Miller Bill restricting the use of pesticide chemicals as additives to raw agricultural commodities.

The new law authorizes the Department of Health to prescribe limits of tolerance for the use of chemicals and prohibits their use in excess of prescribed regulations.

It is an outgrowth of hearings conducted by congressional committees on the effects of the use of chemicals to prevent diseases in growing edible products. Many of the chemicals commonly used are in the form of sprays.

Hercules Battles Army Worm

Destruction of crops in Minnesota by a serious infestation of army worms led to an emergency call on the Hercules Powder Company for aid in the battle against the menace.

The Naval Air Station at Glynco and the Air Force helped to expedite the dispatch of the requested chemical help to Minnesota.

Toxaphene was needed in the state-wide battle against the invaders.

A C-47 was dispatched to pick up 5,000 pounds of toxaphene from the new Brunswick, Georgia, plant. It was quickly loaded with the desperately needed material. By mid-morning the Air Force plane was ready to depart.

The material was carried to one of Hercules' customers to be hurriedly processed into dust. Then it was rushed to the scene of the battle and sprayed over the endangered crops by dusting planes.

Control Cabbage Pests To Check Bursting Of Heads

Keeping insects under control reduced the amount of bursting of cabbage heads by almost 50 per cent in tests carried on at the Experiment Station at Geneva, New York.

Control of cabbage worms, aphids, and thrips with dusts added almost three tons per acre to the yield

where no fertilizer was used. When 1,800 pounds of a 5-10-10 fertilizer were applied along with dusting, the increased yield amounted to five and a half tons to the acre. At the same time the number of burst heads was reduced almost half.

Yields were increased by the use of fertilizers, but increasing the amount of fertilizer led to an increasing amount of bursting unless insect injury was held in check at the same time. Benefits of insect control were noted regardless of the amount of fertilizer used.

A summary of the experiments, which were conducted jointly by the Vegetable Crops and Entomology Departments, is available in a bulletin which may be obtained upon request to the Station.

Pink Bollworm At Gins Under Study By USDA

More convenient and economical methods of destroying pink bollworm brought to cotton gins that save the gin trash for local use as soil conditioner, fertilizer, and livestock feed, are being studied by U. S. Department of Agriculture engineers and entomologists.

Engineers of the Cotton Ginning Research Laboratories and entomologists of the Pink Bollworm Research Center and of the Pink Bollworm Project, Agricultural Research Service, are cooperating in studies of ginning and allied operations for determining methods, equipment, and techniques to accomplish these purposes. Modern gins with elaborate drying and cleaning equipment kill a high percentage of the worms during the ginning process. Controlled laboratory tests are being conducted at the Department's Cotton Ginning Research Laboratory at Mesilla Park, N. M., to find what process or machine is responsible for the greater part of the kill, so that, if possible, modifications or improvements can be made to obtain 100 percent destruction.

AP&C Booklet Covers Estonmite Use

A descriptive booklet concerning the use of Estonmite-50W for control of spider mites in agricultural and ornamental crops has been issued by the Agricultural Chemicals (Eston Chemicals) Division of American Potash & Chemical Corporation.

Copies of the publication are available at no cost by writing to Eston Chemicals Division, American Potash & Chemical Corp., 3100 East 26th Street, Los Angeles 23, Calif.

New Killer For Johnson Grass

A new chemical wood killer is seen as holding promise for practical control of Johnson grass, the most stubborn and widespread weed pest in the Cotton Belt.

The new chemical weed killer is hexachloroacetone, which has been developed by General Chemical Division, Allied Chemical & Dye Corp., and given the trade name "HCA Weed Killer".

MADISON ANHYDROUS CONFERENCE

Nearly 1000 persons attended the Anhydrous Ammonia Conference at Madison, Wisconsin on August 18 to hear a program featuring some of the nation's leading agronomists. At the conference, sponsored jointly by the Soils Department of the University of Wisconsin, the Anhydrous Ammonia Institute and its Great Lakes Division, attracted many representatives of the fertilizer industry along with producers of anhydrous ammonia, custom applicators, and equipment and materials people.

Speakers on the program described the phenomenal gains shown in this year's anhydrous application, which last year rose 20 percent over the previous year's rate. They emphasized that increased use of ammonia on soils is accentuating the need for additional application of lime, phosphates, potash and minor elements to round out a balanced fertility.

Fall application advice had a prominent part in the program, too, with benefits outlined in the form of avoiding spring weather hazards, taking advantage of availability of labor and equipment during the slack season, hastening decomposition of organic matter through fall plow-down, and utilizing the soil as storage space for nitrogen through the winter without fear of losses from leaching.

Tabulations were cited showing the increase during the past two years in the number of anhydrous application service organizations available to the farmers, especially in the Midwest corn belt, and increases in the ammonia-producing facilities bringing the industry to a capacity of over 3 million tons of fixed nitrogen annually. This increase, it was pointed out, came about from the construction of 40 new nitrogen fertilizer plants to boost the output which already existed in the form of converted munitions factories.

The program was split into a morning and an afternoon session, separated by a luncheon in the Great Hall of the Memorial Union Building. Immediately after the close of the afternoon portion of the meeting, guests enjoyed an informal social hour at the Rathskeller of the Union Theatre on the university campus. Nearly 500 remained for the finale, an early-evening banquet held in the Great Hall.

ANHYDROUS AMMONIA CONFERENCE

Memorial Union Building
University of Wisconsin

MORNING PROGRAM

Presiding — **Dr. O. I. Attoe,** Chairman, Dept. of Soils—University of Wisconsin.

Opening Remarks—**Ken Cross,** President, Great Lakes Section, Agricultural Ammonia Institute.

Welcome—**Dean R. K. Froker,** College of Agriculture, University of Wisconsin.

"Nitrogen Fertilizers Have Extended Crop Production Horizons" (Illustrated), **C. J. Chapman,** Extension Specialist, Soils, University of Wisconsin.

"About Fall Application of Anhydrous Ammonia and Other Nitrogen Fertilizers," **Dr. John M. MacGregor,** Division of Soils, University of Minnesota.

"Anhydrous Ammonia as a Soil Conditioner," **Dr. Arthur M. Smith,** Chief Agriculturist, Mathieson Chemical Company, Baltimore, Maryland.

AFTERNOON SESSION

Presiding — **Professor Emil Truog,** University of Wisconsin.

"Soil Fertility—The Basis For High Crop Production," **Dr. George Smith,** Soils Dept., University of Missouri.

"Anhydrous Ammonia Retention by Soils as Influenced by Depth of Application, Soil Texture, Moisture Content, pH Value, and Tilth," **Dr. M. L. Jackson,** Soils Dept., University of Wisconsin.

"Increased Use of Nitrogen Fertilizer Accentuates the Need for Both Major and Minor Elements," **Dr. Kermit C. Berger,** Soils Dept. University of Wisconsin.

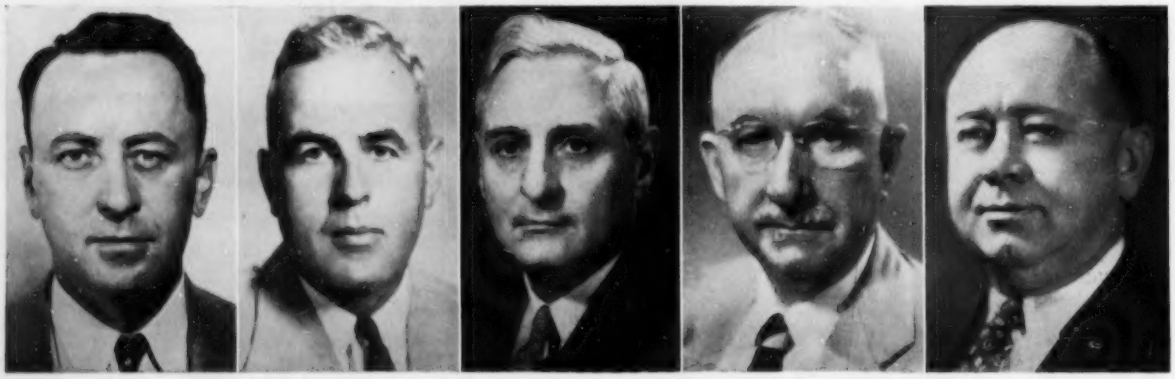
"Nitrogen Soil Testing and Prescription Farming," **Dr. Arthur E. Peterson,** Soils Dept., University of Wisconsin.

EVENING SESSION

Banquet

Toastmaster—**Jefferson I. Davis Jr.,** Albany, Georgia (former President Agricultural Ammonia Institute). Guest Speaker—**Kirk Fox,** Editor, Successful Farming, Des Moines, Iowa.

George Smith **MacGregor** **Fox** **Chapman** **Arthur Smith**



Future of Farming in the Great Plains

True D. Morse, Under Secretary of Agriculture
and President of Commodity Credit Corporation
Address, *Great Plains Council*
Custer, South Dakota, August 2, 1954

This address by Mr. Morse—while not specifically related to the use of fertilizer—is an excellent review of the problems, progress and prospects for the Great Plains area, one of the unexploited "frontiers" remaining as a challenge to America's plant food producers. His remarks indicate the tremendous amount of study which has gone into planning a constant and productive future for the agriculture of this section.

In the vast Great Plains there are farming uncertainties and extremes of greater magnitude than in any other major agricultural area of the United States. It is a rich and productive agricultural region. It must be given greater stability as we press forward in building a stronger America.

Authorities say that those who live in the Plains for 20 to 30 years and adapt their farming or ranching to the region will have a better income than the national average. A real problem is how to manage to survive the lean years with a satisfactory level of living so as to benefit by the high income periods.

For more than a quarter of a century I have personally worked with the farm management, land value and credit problems in every major part of the Great Plains. I know from personal knowledge and contact with individual farmers and ranchers, the heartbreaks they suffer when they go broke under successive years of drought and crop failures—and the contrasts of prosperity when there is rain and prices are favorable. I have seen the solid operations of well-managed farm businesses that have weathered the extremes.

Businesses and financial institutions suffer unnecessary losses and assume more than normal risks. Towns and farming communities have gone from boom to bust and then again prospered. They share the fate of the farmers and ranchers.

There is a way to more stability and to more dependable prosperity. It must be achieved. That is the challenge that brought the Great Plains Council into being in the tragic drought and dust storm years of the 1930's. Great progress has been made. We must build on that progress until there is security for those who farm and work in this vast agricultural empire of the United States—a belt 200 to 700 miles wide, stretching 1300 miles from Canada down across the states nearly to Mexico.

That is the challenge. More stability for farmers, and businessmen and for towns and communities in the Great Plains will indeed help build a stronger America. Limited and uncertain rainfall is the major problem. Memory is fresh with the cumulative effects of the drought and depression of the 1930's. Then came the decade of fairly abundant rainfall and prosperity in the 1940's.

The Southern Great Plains in the 1950's—and especially in 1953—has seen the return of drought disaster and dust storms. Severe drought has centered in the Southern Plains for three years or more and still persists. No one can predict when similar conditions will again move into the central and northern plains.

This is a "young" area—most of it with less than 75 years of farming experience—but there are sufficient records to reveal how unpredictable is the weather. Studies based on tree-ring growth and other evidences have reached back well over 500 years and show no definite weather cycles.

The tendency toward irregular bunching of good crop years and years of crop failures increases the intensities of the economic problems. Farmers and ranchers may manage to tide over one or even two years of drought, but several failures in succession exhaust reserves and result in physical and financial hardships.

Farmers Have Primary Responsibility

It is a basic American tradition that the individual shall rely first on his own efforts. We should proceed on the assumption that individual farmers will continue and intensify their efforts to farm successfully, on a sound basis, with due regard to the welfare and protection of their families.

"Individual freedom and citizenship responsibility depend upon the principle of helping the individual to help himself," says Secretary of Agriculture, Ezra Taft Benson, and, certainly, we can agree with R. B. Tootell, governor of the Farm Credit Administration, when he says, "The future of the Great Plains rests primarily with people themselves."

Perhaps in no other major area of the United States is there greater need for farmers and ranchers to make long-range farm plans. Sound financial programs should be projected years ahead. The rewards will be especially great for those who assume and wisely carry out the responsibility for their individual success and for the protection of their families.

Rules or guides to successful farming and ranching need to be developed—they are especially needed in areas of more than normal risks or hazards. In addition to the guidance they will give farmers, such success factors would be useful to those extending credits and various forms of public aid. Any such guide to success for those farming in the Great Plains would undoubtedly include such principles as the following:

CALIFORNIA RANGELAND TEST REPORT

California Fertilizer Association has announced results obtained to date from a series of field size dry rangeland fertilizer demonstrations now going forward in California, as an indication of the extent to which dry range land can be easily improved at very nominal cost, and of the increased profit which can accrue to the livestock producer if he will utilize adequate fertilizer along with other approved range management practices.

A detailed report was presented to the Fifth Annual Pacific Northwest Fertilizer Conference in Klamath Falls covering twelve separate demonstrations in areas representative of California range land. Those demonstrations which are continuing projects are providing an accurate means from which to compute from comparative gains in the weight of grazing livestock, the value of proper range fertilizer practices.

The following results of the 1953-54 demonstration indicate the economic value of dry range fertilization.

Cooperating Farmer	County	Rate & Type Fertilizer Per Acre	Beef or Lamb Production In Pounds Per Acre		Net Gain In Pounds Per Acre
			Fertilized	Not Fertilized	
Touhey Bros.	Amador	200 lbs. 16-20-0	219.0	58.0	161
Leon Williams	Tehama	400 lbs. 16-20-0	127.0	11.6	115.4
Norman Souza	San Mateo	400 lbs. 16-20-0	337.4	42.0	295.4
Frank Nelson	Santa Clara	400 lbs. 16-20-0	225.0	52.0	173.0
Robert Wilson	Monterey	345 lbs. 16-20-0	256.5	80.0	176.5
Calif. Poly. College	San Luis Obispo	300 lbs. 16-20-0	206.9	95.7	111.2
A. C. Pedotti	Santa Barbara	400 lbs. 16-20-0	259.0	123.0	136.0
Edw. W. Lloyd	San Diego	150 lbs. ammonium nitrate (33.5% nitrogen)	247.0	75.0	172.0

(1) **Proper Land Use Comes First.** A farmer forfeits his right to success to the degree that he uses land for crops to which it is not adapted. National emergencies such as war, or individual circumstances may be reasons for temporary departures from sound land use.

Those farmers who persist in cultivating the more than 14 million acres in the Great Plains now under the plow, that are not adapted to continued cropping, should assume the risks. Further, they have an obligation to society and future generations not to mis-use farm land in a way that will permanently impair or destroy its future productivity. Arable farming in the drier areas of the Plains is exploitive farming.

There are counties in the Great Plains where the average yield of wheat over a period of years is about seven bushels per acre. That will not meet costs of production. The range in average yields for such areas has been from nothing to over 25 to 30 bushels per acre. Those who gamble on cashing in on the few years of extreme high yields on such land should be prepared to assume the risks and losses for the years when little or nothing will be produced.

Changes in land use are certain on cultivated land not adapted to crops. The question is—will the changes be by voluntary action—or be forced by adversity and disaster?

(2) **Flexibility in management is especially important** for the most successful farming and ranching in the Great Plains. In the minds of some, this may appear to conflict with the need for stability to which I have already referred. The agricultural economy of this vast region must employ flexibility in order to maintain reasonable stability through the years. For example:

Cow and calf types of operation on some ranches are too inflexible. In extreme dry periods the size of herds may need rapid reduction—or when grass and wheat pastures are lush, more livestock may need to be brought in for most profits. A steer operation or a cow-steer combination gives flexibility.

Expansion of summer fallow in dry periods and enlarging wheat and other crop acreages when soil moisture reserves are high are other illustrations of the need for flexibility. Cropping plans must be flexible to meet changing moisture conditions. Lease, livestock, equipment, storage and other contracts need flexible provisions.

(3) **Reserves of soil moisture and water** to meet crop, livestock and domestic needs must be a constant objective. The methods of conserving soil moisture are well-known but too little practiced.

Livestock is again being sold at a sacrifice in drought areas where water supplies failed while feed was yet available. This happens too often.

(4) **Reserves of feed and seed** must be maintained against dry years—far beyond the practice of most farmers and ranchers. Feed reserves can be in many forms: a wide margin of grass for grazing, from one to three years extra supply of hay or other roughage (often recommended), silage, and grain and other feed concentrates.

Governmental price supports and farm storage programs can be used by farmers to maintain more adequate feed grain reserves. I understand the Great Plains Council is considering a program recommendation for "the production and storage of a two-year forage feed reserve on each farm or ranch where livestock is kept."

Get in on the ground floor!

The circles on the map represent unclaimed territories for the production of complex fertilizer. The pin locates the only plant presently producing complex fertilizer by a continuous chemical process.

New economic frontiers don't remain undeveloped for long. There is still time to get a choice location before the rapidly moving trend toward high analysis complex fertilizer *completely engulfs the country.*

Get C&I's complex fertilizer plant using the PEC* patented carbonitric process that produces a superior and stable pelleted product for less than any existing process.

C&I will provide a complete and integrated plant or any of the individual units (ammonia, nitric acid, complex fertilizer) for the production of complex fertilizer in any desired capacity. Plants are erected at a fixed price with productions and efficiencies fully guaranteed.

C&I can also furnish the latest type ammonium nitrate solutions and solids plants.

C & I can now license Commercial Solvents' Stengel Reactor and furnish and erect the complete ammonium nitrate plant using the new Stengel Process.

* Potasse et Engrais Chimiques

PEC

Specialists in C&I *Processing Ammonia*

THE CHEMICAL & INDUSTRIAL CORP.

CINCINNATI 26, OHIO

(5) **Reserves in equipment, livestock, and land**—free of debt—should be the objective. This can often be attained quickly in years of high crop yields. Too often debts have been left unpaid when they could have been paid off—and have later resulted in the loss of the farm and home when adversity next struck.

(6) **Reserves in bank accounts, bonds, stocks, and other liquid assets**—should be an ultimate objective, even though beyond the reach of beginning farmers. In much of the Great Plains, farming is much more of a business than in many other regions. As such, the financial management and providing of reserve liquid assets must be handled on a sound business basis if success is to be assured.

(7) **Irrigation needs to be utilized where practical.** Even a small acreage that can be irrigated can have a great stabilizing effect—even if it only helps assure family food supplies.

It is an impressive fact that though only about one percent of the earth's surface is irrigated—that small area probably feeds one-third to one-half of the world's population. Apparently it is practical to irrigate up to 4 or 5 percent of the Great Plains cropland.

Irrigation, where extensive enough to provide dependable hay and feed supplies, has a great stablizing effect on the livestock maintained on the surrounding dry land areas.

(3) **Farms and ranches must be large enough to operate successfully.** The increases in size that have taken place have been one of the major improvements of the past 15 years. There were 23 percent fewer farms in the Great Plains states in 1950 than in 1930. The units should be large enough to effectively employ the time of the farm family, use efficient size machinery, and allow diversification where practical. In many parts of the Plains this means at least a section, 640 acres of land for crops.

(9) **Diversification of income with two or more major sources of** income should be the objective where practical. For example, cattle have kept many wheat farmers going when the crop failed because of drought, hail or rust.

Those who farm only wheat have most of the year in which to follow other employment. Some have been charged with departing for resorts or making little use of the time not needed for the single crop of wheat.

There are too many farmers effectively employed only part of the year. This can invite financial disaster.

(10) **There needs to be more livestock production and feeding** in the Great Plains. It will help diversify income. It will often make more profitable use of oats, barley, wheat, grain sorghums, silage, hay and other feeds than cash sales. It will help stop the loss of soil fertility.

More profitable livestock markets are now available due to demand from the West Coast population. Hogs are now shipped from east of the Great Plains to California. More beef and lamb moves west than in former years. Now both the East and West bid for Great Plains livestock.

The present high capitalized land values—often accompanied by substantial debts—are a major obstacle to returning land to grass and converting to more livestock where that is the best adaptation. Unfortunately, tax assessments also have often become excessive on cultivated land that should be put back into grass. Despite such barriers, the transition will eventually be forced by crop failures.

(11) **There are other guides to successful farming and ranching.** They may vary by areas. The importance of each certainly varies by local conditions and the characteristics of individual farms and ranches. The success factors need to be determined by research and then be driven home by education to all who

FARM-RANGE DISASTER AREAS LISTED

President Eisenhower after consultation with the Secretary of Agriculture, last month designated the following sections as drougth disaster areas; 76 counties in Missouri, 30 in Kansas, one in Colorado and 26 in Oklahoma were designated by the Secretary.

Texas, Colorado, New Mexico and Wyoming have previously been designated by the President as drought disaster areas, and the Secretary of Agriculture has designated 83 counties within these States as drought disaster counties where special aid programs are available.

Severe drought conditions have been reported for sections of Arkansas, and conditions in this state are under immediate review. Other states—Alabama, Kansas, Kentucky, Georgia and Tennessee—have also asked for designation as drought disaster areas. Information on the situation in these states is being gathered together daily, and is under continuous study by Federal drought officials.

The basis upon which feed grain from Commodity Credit Corporation stocks will be used to implement a new drought feed grain program, for farmers and ranchers in designated drought areas, was also announced by the Secretary of Agriculture.

County committees of the Farmers Home Administration will determine eligibility for participation in the program. A primary consideration will be the need of producers for help in maintaining their basic livestock herds of cattle, sheep and goats. The amount of surplus grains, as designated by CCC, to be made available for individual producers will depend upon their established need for supplemental feed supplies on this basis, and for a period not in excess of 60 days.

The Agricultural Conservation Program is also being adjusted to provide more direct assistance for farmers and ranchers in drought areas. Emergency conservation practices will be approved as needed in the designated drought counties for protection of the farms against erosion. These practices also will provide supplemental forage for livestock where normal feed supplies are depleted.

operate in the Plains—farmers, businessmen, community leaders and citizens generally.

The success factors need to be a check list to show whether a farmer has a right to expect success or has invited disaster by the way he has operated his farming business. They can be a guide to extending credit, disaster relief and other programs. They can go a long way in assuring a sound future for farming in the Great Plains.

State and Federal Governments Must Help

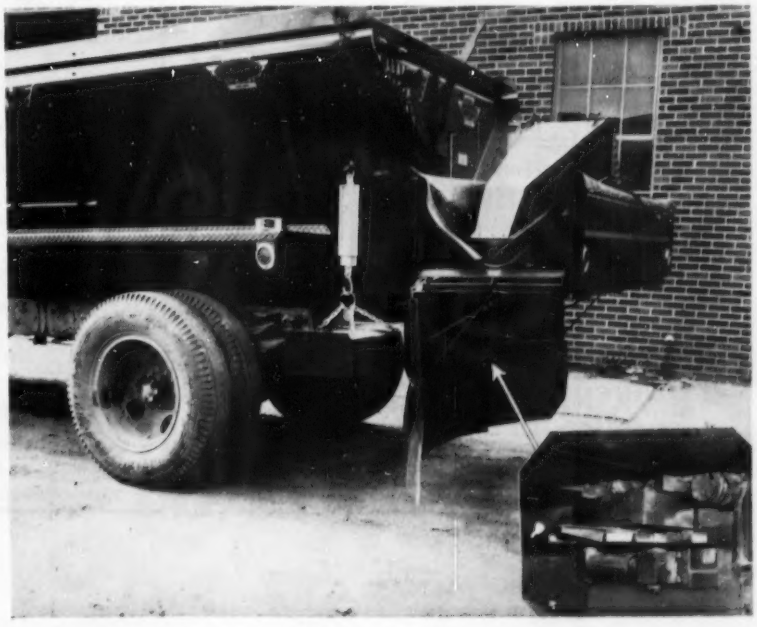
In the administration of the United States Department of Agriculture, Secretary Benson says a guiding purpose is, "to strengthen the individual integrity, freedom, and the very moral fiber of each citizen." Therefore, in discussing the responsibilities of local, State and Federal Governments, I would put this purpose at the top of the list.

(1) **Premiums must be placed on individual responsibility** and local, State, and Federal Governments must constantly encourage attitudes of self reliance. Secretary Benson

The Highway Equipment Company, Inc. of Cedar Rapids, Iowa, has introduced a new metering attachment for use with their NEW LEADER Commercial Fertilizer and Lime Spreaders. This attachment now eliminates much of the guesswork in fertilizer application because it enables the operator to determine the proper feedgate opening for any given output per acre without waste of material.

A test box is included to collect the amount of material coming off the conveyor of the spreader and this is weighed with the scale furnished. This weight when checked against the distance traveled, will show the amount of material being spread per acre. The test can be easily and quickly made before any spreading is done in the field and the results assure the customer a uniform application of just the right amount per acre.

The metering attachment fits all late model NEW LEADER Twin Disc Spreaders and besides being inexpensive, is simple to operate. Further information is available on request without obligation.



further maintains that, "we must establish a climate which will promote, cultivate, and release the great reservoir of dynamic latent energy of every individual in this great nation."

The Great Plains was settled by courageous, aggressive, rugged farmers and stockmen who asked only that they have the opportunity to match their energy, resourcefulness and skills against the uncertainties of the vast Plains. There are, however, public responsibilities that must be discharged by local or State agencies or by the Federal Government.

(2) **Adequate soil surveys** and inventories of land and water resources are needed. Sound agricultural developments will be much more certain if based on good soil surveys. They are a fundamental basis for land classification.

(3) **An adequate land classification system is needed which is recognized and accepted** by local people. Progress is underway but farmers, banks and other lending organizations and citizens generally must be convinced that certain lands are unsuited for crop use and that use of such land for crops will invite disaster. Desirable land use adjustments must be based on authoritative land classifications— and even more important, must have the support of local public opinion if they are to be successful.

(4) **Congress has provided the President with a disaster relief fund** which is administered under Public Law 875. The President has made funds available to meet the drought disaster of 1953 and has provided continuing help where the drought has persisted and become more intense.

Even where individual farmers and ranchers use sound management and assume primary responsibility for the hazards of the areas in which they operate, there will at times come history-making, devastating droughts, floods and other disasters that call for public aid. For example, the soil in some areas of the Southwest after 7 years of drought was dried out deeper in 1953 than at any other time since white men have lived there. Some live oak trees 300 years old died for lack of water.

(5) **Some but not all states, have discretionary funds which can be used for disaster relief.** Our experience with drought, floods and other disasters in 1953, and thus far into 1954, shows these are inadequate. Only two states out of 18 suffering major disaster last year contributed state funds to be used along with Federal funds to aid disaster-stricken farmers.

States should match Federal funds or at least make substantial contributions to aid their citizens when disaster strikes. Many state legislatures will be meeting within the next 12 months. Certainly the legislature of every state that is even partly within the Great Plains has an obligation to provide discretionary or other funds for disaster relief. Disaster does not wait for the next meeting of a state legislature.

(6) **Flexible taxation of farm property** to build up reserves in prosperous years and give relief when crops and pastures fail, needs

more consideration. Taxes took the land of many debt-free owners during the 1930's.

"Much of the land in the Plains is precariously balanced between areas of predominantly private or public ownership. In times of stress more than 30,000,000 acres slipped into public ownership by the tax delinquency route - - - " (Northern Great Plains Council).

The Federal income tax system recognizes the need for relief when there are loss years.

(7) **Tax assessments that permit and encourage proper land use are urgently needed in many areas.** Antiquated tax systems need modernizing. For example, grazing land should be assessed on the basis of use for grass with an obligation on the land owner to keep the land in its adapted use to qualify for the lower taxes. This principle is already in use for timber lands in some states.

(8) **Flexibility in credit is needed.** The provisions for, and insistence on, advance payments when incomes are high with provisions for allowing such advance payments to apply to years of loss or low income need further study and encouragement. Sound operators need to be backed in years of stress with extensions of delinquent debt payments and emergency credit.

(9) **Crop insurance** is apparently one of the needs of the Great Plains. The present Federal experiment is developing experience and facts that should help point the way to private or public insurance programs that will help equalize the income of farmers that are subject to more than normal risks.

(10) **Land use regulations** such as those of Soil Conservation Districts may be further extended.

Zoning by states and counties to encourage or force proper land use is often proposed. It has been suggested also that eligibility for price supports, credit, public aid, tax relief, crop insurance and other programs should be based on adapted uses of land. Why give price supports and crop insurance at taxpayers expense to wheat grown on land that is not adapted to cultivation? This is a question that is being asked with more and more insistence.

Such an approach would help avoid situations like that for one Great Plains county where it is said the public relief extended during the '30's amounted to more than the price for which all the land in the county could have been purchased.

Further extension of grazing associations and experiments with land use ordinances undoubtedly are ahead.

(11) **Location of more grain storage in the Great Plains** may be desirable. It would serve such purposes as providing more feed reserves and as a defense measure—would help avoid concentrations of food stocks in target areas. First, all farms should be equipped with storage needed for practical operation. When

storage facilities are financed or encouraged by the Government, various factors, including defense, should receive more study.

During the 1953 drought, grain previously shipped out of the Plains to storage—was in some cases hauled back into the drought areas to meet feed needs.

(12) **In times of disaster there must be effective teaming up** of local, state and Federal forces to handle public aid. Responsibility for administration must be placed as close to the stricken people as practical—that means at the county and state levels. We made such an approach in extending disaster aid last year with favorable results.

(13) **Research and education must lead the way** and be incorporated into all the efforts, both private and public, to speed future progress in the Great Plains.

More Stable and Profitable Farming Is Ahead for the Great Plains

The future for farming in the Great Plains is promising. This vast, productive, agricultural empire holds great potential for producing even more dependable prosperity for its citizens. The farm products from the region helped win two world wars. It can be a great reservoir of productive strength in time of future national emergencies, if wisely managed to conserve and increase its productive capacity.

These great potentials can be fully realized only by putting into effect the practices and procedures that will more completely control the effects of the weather hazards. Drought, floods, and other disasters cannot be prevented—but the damaging effects can be greatly reduced. The remedies are largely known. The major problem is how to get them put into use.

The free enterprise system, that allows farmers to cultivate land regardless of the damage that may be done, is part of the problem. Yet, it is this same freedom for farmers which must be preserved and protected if the Plains are to yield the most for its people and for the Nation.

Some think there may be a place for single crop wheat farming in some areas. If it is permanently adapted land use in any area, should the families live in towns or concentrated locations where they can develop other enterprises for year-long employment such as livestock feeding, dairying, and industries? Such concentration would permit more adequate educational, medical, religious, social, recreational and other services. Such questions show the need for more study and research.

It is unrealistic to think that much of the Great Plains agriculture can be given the same degree of stability that is enjoyed by many other farming areas of more abundant rainfall and more dependable climatic conditions. This does not, however, preclude constant and increased effort to give the region greater stability.

To that end, the Great Plains Council will continue to make a great contribution. It has a tremendous challenge.

During the past year President Eisenhower and Secretary Benson have given personal leadership in attacking problems of the Great Plains and in planning for the future. There have been conferences with Governors and various groups and agencies.

The National Agricultural Advisory Commission has been asked to consider the long-range program for the Region. Its attention has been directed to the work of the Great Plains Council and the Commission and Secretary Benson is looking to this meeting of the Council for further suggestions as to how more rapid progress can be made in the Plains. The results of your meeting this year can be especially helpful.

S. Dakota Anhydrous Dealers Meeting

There were thirty present when the South Dakota Anhydrous Ammonia Dealers Association met and elected Jim Wagner, president; Pete Line, vice-president; Greg Schladweiler, secretary-treasurer. Kasper Peters, Dr. R. W. Scanlon and Jack Winchell, all of Phillips Chemical, were speakers.

NEW AMMONIATING AND GRANULATING PROCESS

This new TVA Sackett-Built continuous process produces high-analysis granular mixed fertilizers from lower cost raw materials. The finished product need be stored only 48 hours before packaging. Eliminates "caking" in the bag. This process is presently being offered in 10, 15 and 20 tons per hour capacities. Can be incorporated into new or existing buildings. We also do the required engineering, installation and supervision of initial production if owner desires.

Superphosphate and mixed goods producers are invited to get our seasoned counsel on their expansion and modernization programs. It is available at no cost.

SACKETT BALTIMORE

America's Foremost Designers and Builders..

SUPERPHOSPHATE PLANTS · FERTILIZER MIXING PLANTS

RELATED PRODUCTION EQUIPMENT

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Wheat and Fertilizer in Kansas

By Dr. Floyd Smith
Department of Agronomy
Summary of Kansas State College
Wheat Fertilization Experiments In 1954

In general, the fertilizer results in 1954 were the best that Kansas State College has had on wheat during the past eight years. For an average of 18 locations in eastern and central Kansas the best treatment gave 13 bushels per acre more than the unfertilized wheat. This was a 50 per cent increase in the yield despite drouth and other problems involved.

The greatest increase in yield of wheat was 28 bushels per acre obtained on the Ted Breuer farm southwest of Waverly. On this farm the top plot made 60.4 bushels per acre. Plots at the Ottawa experimental field and on the Vernon Meador farm near Lenexa yielded more than 50 bushels to the acre, and seven other locations had top yields ranging from 40 to 49 bushels per acre.

In general, in southeastern and east central Kansas the best return for money invested in fertilizer resulted from use of phosphate or phosphate and potash. For example, on the W. F. Zimmerman farm near Parker application of phosphorus and potash, alone, gave an increase of more than 13 bushels per acre. This was a return of more than $4 for every $1 invested in fertilizer materials. Response to nitrogen in this area was less than has been true in other years.

In north central Kansas, especially in Washington, Republic, and Cloud counties, response was due primarily to application of nitrogen. Response in yield in this area ranged from 16 to 22 bushels per acre on individual farms and could be attributed almost entirely to high rates of nitrogen fertilization (50 to 100 pounds per acre of actual nitrogen.) Phosphate generally gave increases of only 1-2 bushels in this area.

In south central Kansas response to fertilizer application was poorer than in other portions of the eastern half of the state because of severe drouth conditions. Nevertheless, there usually was enough response in yield to pay the cost of the fertilizer treatment. Responses in this area were due mainly to a combination of low rates of nitrogen and phosphate applications. High rates of nitrogen in this area generally were not of any value, except on sandy lands. In the case of an experiment on the V. A. Riegel farm near Great Bend, application of 100 pounds of nitrogen and 25 pounds of available phosphoric acid resulted in a 13 bushel per acre increase. A similar response was obtained by Frank Lowry, superintendent of the sandy land experimental field at St. John.

Experiments in northeastern Kansas showed response to application of both nitrogen and phosphate, but it appeared that only medium to low rates of nitrogen were beneficial. In general, the results in northeastern Kansas were not quite as favorable as for the area south of the Kansas River.

Results obtained in 1954 General Recommendations emphasize the importance of including sufficient amounts of phosphate and potash in the basic fertilizer treatment. Most of the soils in the eastern one-third of the state and in the south central portion need phosphate added in available form if maximum yields are to be obtained. Soils in north central Kansas are much less inclined to be deficient in available phosphate, and response in the extreme northern part of the central section of the state was due mainly to nitrogen. Potash needs are confined to a relatively few soils in the southeastern part of the state. Potash generally does not need to be added either in northeast or in central Kansas.

Insofar as amount of phosphate required, it appears that a minimum of 25 pounds per acre of available P_2O_5 should be used. In some instances the rate should be as much as 50 pounds per acre of P_2O_5 when the level of available phosphate in the soil is inclined to be low. Farmers should have their soils tested right away to ascertain the requirements for phosphate and potash. These requirements can be established more accurately by soil test than by any other means a farmer has at his disposal.

Every farmer should take advantage of increases in yield which can be brought about by applying phosphate. Usually he can expect from 3-13 bushels per acre increase in yield from a modest application of phosphate and, sometimes, potash. The cost of this treatment usually is less than $5 an acre.

The possibilities of yield increases from phosphate seem to become greater in east and central Kansas during periods of drouth. This has been observed in the past and recent data confirm these observations.

Response to Nitrogen

Response to nitrogen is somewhat more indefinite in dry years than is the response to phosphates. For example, there was essentially no response to nitrogen in the south central Kansas area where the drouth was severe. On the other hand yield increases of 50 to 80 per cent were obtained in north central Kansas from use of nitrogen. In this area moisture conditions were much more favorable at the time of seeding and continued to be more favorable throughout the winter and spring. In extreme eastern Kansas response to nitrogen was small, despite the fact that abnormally high yields generally were obtained. Apparently the drouth conditions of 1953 were accompanied by the accumulation of much available nitrogen in soils of eastern Kansas. The absence of high rainfall prevented loss of nitrate ni-

WHAT KIND OF WHEAT? . . . BAKERS ASK

The President of the powerful American Bakers Association voices a protest which has been welling up among the membership: Despite the fact that surplus stocks of wheat, largely government controlled, total the equivalent of a year's wheat production, the baker and the housewife are paying the highest prices for flour recorded at this time of year since 1920.

The reason? "It is difficult to find wheat at baking quality . . . wheat farmers are seeding high-yield wheat without regard to baking quality characteristics." The need, obviously is a quality stipulation in the farm price and support programs. The baker is the farmer's best and biggest customer.

trogen from the soil, therefore, little response was obtained in the 1954 wheat crop.

Rules for Applying Nitrogen

Upon the basis of experiments of 1954 and previous years, it appears that a number of factors must be considered when it comes to nitrogen recommendations for a specific crop:

1. Past crop history. If the land has a recent history of legumes, application of nitrogen probably will not pay.

2. Seedbed preparation. Early plowing reduces need for addition of nitrogen.

3. Amount of stubble incorporated in the soil. If the quantity of straw plowed under is large, the need for nitrogen likely will be great. This is the present situation on many eastern Kansas farms where large quantities of straw are being turned under. It would appear that such farms would benefit from applications of considerable nitrogen in the case of the 1955 wheat crop.

4. The amount of moisture received during the summer and fall. If the soil is very dry at planting time, nitrogen should not be applied. In case of wheat planted in 1952, much of it did not emerge until February of 1953, and such wheat invariably failed to respond to nitrogen applications. Wheat in south central Kansas in 1954, even though it did emerge properly in the fall of 1953, did not receive much moisture and showed little response to nitrogen at harvest time. Therefore, it appears to be a safe rule to eliminate or reduce the rate of nitrogen application under severe drouth conditions.

5. Special considerations. Sometimes special situations alter the nature of recommendations for use of nitrogen on wheat. This is the case when wheat is planted on soybean or sorghum stubble. Such fields are almost certain to be extremely short on available nitrogen and response to applications of nitrogen may be expected almost every year when wheat is planted under such conditions, irrespective of moisture conditions.

Fertilizer Damage

Fertilizer damage to a crop may be one of two types. In the first type germination of seed may be interfered with and a poor stand results. This type of damage was observed in both 1952 and 1953 where large amounts of nitrogen and potash were placed with the seed. This is another reason why large amounts of nitrogen should not be applied in dry years. Damage from potash and nitrogen can be avoided by using fertilizer treatments that agree with soil test recommendations. Farmers need not worry about damage from application of phosphates, since these are so insoluble in the soil that they cause little damage.

A second type of fertilizer damage may result from the application of excessive amounts of fertilizer nutrients. This is likely to occur when nutrients are not supplied in proper proportions. For example, the application of large amounts of nitrogen on a soil that is deficient in both nitrogen and phosphate may not increase yields and might even cause slight decreases in yields. Also, it may cause lodging. This type of situation can be avoided by supplying necessary phosphates and potash before adding nitrogen.

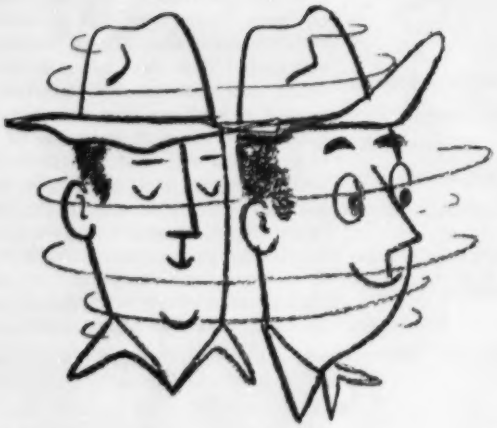
If a farmer will have his soil tested, and if he follows recommendations for use of phosphate, potash, and nitrogen, he should realize a $2 to $3 return for every $1 invested in fertilizer materials over a period of years. These returns may not be this good in certain years, but under especially favorable conditions, such as were experienced for the 1954 crop in extreme eastern Kansas, returns may be as high as $4 to $5 for every $1 invested in fertilizer materials.

Response by Oats

Oats show essentially the same kind of response to fertilizers as wheat. In the case of 1954 trials yield increases of 18-28 bushels per acre were obtained by applications of fairly large amounts of fertilizers. The profits obtained with oats are much less than those obtained with wheat because of the lower cash value of the crop. Nevertheless, in a good year, oats may be fertilized profitably. It appears that wherever oats are grown, they should be fertilized in the same manner as wheat.

Crop Failures

In 1954 an experiment was conducted with barley to evaluate the carryover of fertilizer nutrients from a corn experiment conducted in 1953. It was found that sufficient fertilizer was carried over from the corn crop which failed, to increase the yield of barley by as much as 21 bushels per acre. Thus, when failures do occur when corn is fertilized, it appears that one can realize the full value of the fertilizer treatment in the succeeding crop of small grain.



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LION OIL COMPANY
EL DORADO ARKANSAS

1. H. B. Lipscomb, manager of the Southern Cotton Oil Co. plant at Spartanburg, S. C., came into the fertilizer industry quite naturally when he came to SCOCO in 1946 from the cottonseed business. Born in Cherokee County, he acquired his hobbies of hunting, fishing and farming at an early age. The Lipscombs live out from Spartanburg near Greer, where it's easy for H. B. to drive back and forth daily. They have two children, a 17-year-old son who will enter The Citadel this fall with plans to study medicine, and a two-year old daughter. 2. Ralph Caldwell, President of Caldwell Company in Spartanburg, is a veteran of 46 years in the fertilizer business, although he did not begin a mixing operation until 20 years ago. A native of Campobello, S. C., Ralph finds his recreation in gardening and attending baseball games. The Caldwells have two children. Martin Caldwell, Jr., their son is an Episcopal minister; he attended Davidson College and Duke University before he began preaching at Kannapolis, N. C., and has just accepted a call to Rye, N. Y., as assistant minister at a large church there so he could be near General Theological Seminary in New York City where he lacks one quarter's work on his divinity doctorate. The Caldwell's daughter, Nancy, returned to Spartanburg after college to teach art in the city schools. 3. Alton L. Foster is superintendent of the International Minerals & Chemical Corp. plant at Spartanburg. He is a second-generation man in the industry; born in Atlanta, where his father worked with Armour & Co., he "got fertilizer in his shoes" at an early age. As his father followed the industry, the family moved to Jacksonville and later to Augusta, and in 1911 went to work with IM&C. As a boy, Alton spent his summer vacations working in the plant before entering the Army in World War I. Returning from military service, he finished high school and college before joining the International organization in 1923. The Fosters have two sons, one a freshman at Wofford College and the other a junior high school student. They live in Duncan Park section of Spartanburg where Alton takes great pride in the roses and azaleas he cultivates when he's not fishing or participating in some Shriners' activities. We especially remember one comment he made during the course of our conversation: "Whenever you reach the point that you think you know this business, then you're ruined." 4. The fellow with the contagious smile is E. Howard Wood, superintendent of the F. S. Royster Guano Co. plant at Spartanburg. Born and reared at Union, S. C., he came into the industry when he joined Royster eight years ago. Twenty-nine year-old Howard lives in Spartanburg with his wife and three children—all boys, ages seven, six, and three. As a hobby Howard does a little fishing when he can find time. 5. Meet W. H. "Billy" Marlowe, manager of Naco Fertilizer Company's plant at Spartanburg, S. C. Son of a farming family, he left his native McClellanville to study agronomy at Clemson College. After graduation, Billy went to work for Naco at Charleston in February, 1952; last June he was transferred to Spartanburg. Being single, Billy is able to spend many of his off-hours fishing. When we snapped this picture, he was giving us a technical (but simple enough for us to grasp) explanation of the term "nodulated" which appears on the Naco bag.

The new Lessmann GFT Model has front wheel drive and rear wheel steering. This design is offered to users who are confronted with operating in confined areas, flotation problems, etc. Bucket is 22 cu. ft. struck capacity, 28 cu. ft. heaped. Full line of attachments are available as extra equipment. For additional information write Lessmann Manufacturing Company, 20th and Easton Blvd., Des Moines, Iowa.

Girdler Will Build Du Pont Process Nitric Plants

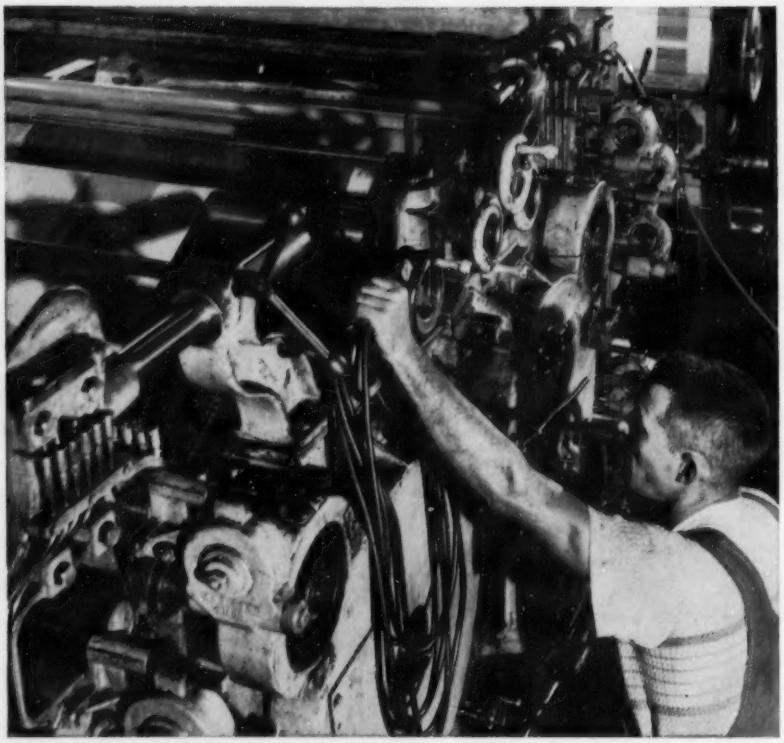
The Girdler Company, engineer-contractor of Louisvile, Ky.—a division of the National Cylinder Gas Company—will build nitric acid plants employing the process of E. I. du Pont de Nemours & Company. Announcement of the arrangement, under which plants will be offered to the chemical, fertilizer and explosives industries, was made by W. R. Wood, Girdler's executive vice president.

Girdler first built a nitric acid plant of the du Pont type in 1949. Since then many improvements have been made in the process, and these will be incorporated in future plants sold by Girdler.

Nitric acid is one of the country's basic raw materials. Its use has grown considerably during the past several years, principally for the production of fertilizer-grade ammonium nitrate and the new nitrophosphate fertilizer materials.

No. 3 of a series

How Bemis makes GOOD multiwall bags for you



As with other types of printing, there is no substitute for experience in multiwall paper bag printing. A typical Bemis pressman is Wesley Pitcher, shown here at the 4-color press he operates at the Bemis plant in Peoria. Wesley went to work in the printing department 21 years ago and has been a pressman for 18 years.

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1. Specially designed presses . . . with features needed for *best multiwall printing* . . . are used.

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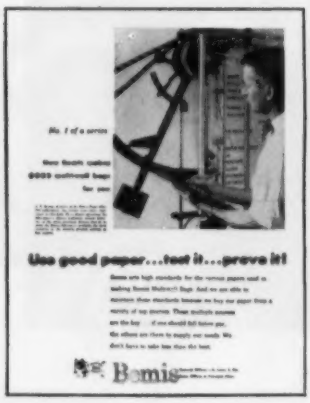

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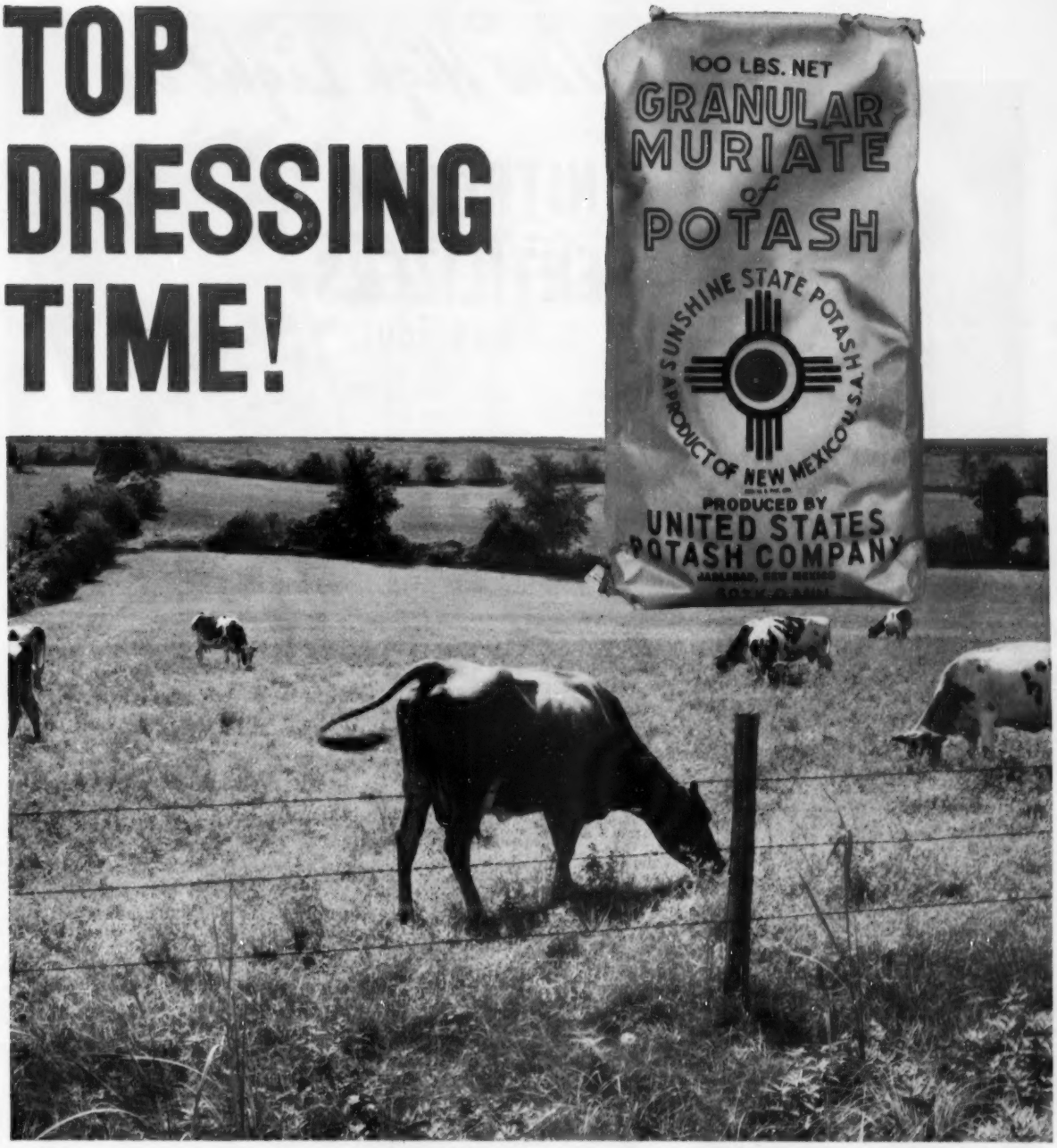

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This pleasant couple is Mr. and Mrs. J. P. "Huck" Huckaby; Huck is plant manager for Southern Fertilizer & Chemical Co. at Roebuck, S. C., and Mrs. Huckaby helps out in the office during the rush season. Her employment with the company dates back to 1943. Huck was born at Enoree, studied agricultural education at Clemson College, and then taught agriculture (with time out to serve with the Army during the war) at the high school in Roebuck. While teaching here he met his wife who was a native of the community. In 1946 he came with Southern. The Huckabys have two children, a six-year-old son and a daughter aged three. Huck occasionally finds time for a little fishing or hunting, but spends most of his leisure hours working with his stock (he specializes in white-faces).

New Link-Belt Catalog 950 Gives Data On Standard Products

A new 340-page standard products Catalog 950, providing easy and rapid selection, has just been published by Link-Belt Company.

The products shown include chains and sprockets for conveying, elevating and power transmission; the line of enclosed gear drives, including the newly developed parallel shaft helical drives; transmission products, including ball and roller bearings.

The section covering conveyor components gives a comprehensive listing of standard products for screw conveyors, belt conveyors, Flexmount oscillating conveyors and bucket elevators. A new ball bearing trolley is featured in the section on trolley conveyor components.

Request your copy from Link-Belt Company, 307 N. Michigan Ave., Chicago 1, Ill.

Safety . . .

FERTILIZER SAFETY SECTION SPONSORS WORKER STUDY PROJECT

Purpose

The purpose of the Fertilizer Section Study Project is to secure actual field data on the learning processes, motivations and work habits of the average fertilizer industry laborer so that the films, safetygraphs, leaflets, and other training aids the section may produce will have maximum effectiveness.

The study will also enable the fertilizer industry to improve "safety-wise" its supervisory techniques and should further provide material to influence top management toward a greater interest and participation in the industry's safety program.

The results of the survey should be useful beyond the immediate goal of better safety performances. The information gathered should enable the industry to utilize its workers more effectively both production and maintenance-wise.

The survey does not propose any sort of physical plant inspection but rather an investigation of the work habits, motivations and learning processes of the workers alone.

Procedure

To carry out this project the Fertilizer Section has engaged Dr. Charles W. Nelson, Director of Research and Planning at the Industrial Relations Center of the University of Chicago.

Dr. Nelson will make on the spot group interviews of the workers in some typical fertilizer plants for a period of from two weeks to a month between 15 January, 1955 and 15 May, 1955. The materials collected in these group interviews will then be interpreted to discover what motivates the workers individually and as a group to do their best work.

The supervisory force and management people at the plant will be consulted at the same time for their observations to get a balanced picture.

Once the initial familiarity with the worker has been achieved, Dr. Nelson will then spend time at other fertilizer plants to check his observations against the experience there.

Report

Based upon this information, and other information available to the Industrial Relations Center of the University of Chicago, a preliminary report will be drawn up which will include a brief check list which will help plant management screen prospective employees to eliminate those who most probably will be subject to accidents.

This preliminary report will be discussed with fertilizer management for its views on the informa-

(Continued on page 69)

Symposium Completes October Program

Last month we presented the program for the Fertilizer Safety Section, meeting in Chicago October 18-19 at the LaSalle Hotel. Not available as we went to press was this final feature of the program, the Stump the Experts panel which fits into the afternoon of October 19:

3:30—Stump the Experts (A Symposium) Discussion Leader — T. J. Clarke, Personnel Dir., G.L.F. Soil Building Service, Ithaca, N. Y.

(a) Anhydrous Ammonia. J. S. McKenna, Safety Dir., Lion Oil Co., Eldorado, Ark.

(b) Plant-Wide Safety Contests. A. E. Johnson, Safety Dir., Illinois Farm Supply Co., Chicago.

(c) Triple Superphosphate and Acid Handling. Duncan McDonald, Safety Eng., Anaconda, Copper Mining Co., Anaconda, Mont.

(d) Phosphate Mining. B. J. Phillips, Safety Dir., Coronet Phosphate Co., Plant City, Fla.

(e) Tractor and Tractor Shovel Operation. M. H. Talbott, Supt., Kingsbury & Co., Indianapolis, Ind.

(f) Conveyors. R. G. Diserens, Safety Dir., Phillips Chemical Co., Bartlesville, Okla.

(g) Housekeeping. Grayson B. Morris, Assistant Mgr., Cooperative Fertilizer Service, Southern States Cooperative, Richmond, Va.

(h) General Discussion.

TENTATIVE PROGRAM FOR SOUTH CAROLINA ANNUAL ACCIDENT PREVENTION CONFERENCE NOVEMBER 18 & 19, 1954

As we reported briefly last month Vernon Gornto, chairman of the Fertilizer Section of the National Safety Council, and T. J. Clarke, vice chairman, have organized a Fertilizer Safety Section in South Carolina. Meetings will be held at the South Carolina Annual Accident Prevention Conference in Spartanburg on November 18 and 19.

Vernon Gornto, Smith-Douglass, will act as General Chairman for the first meeting with T. J. Clarke, G. L. F. as Program Chairman. The program follows:

How To Run A Safety Meeting—Thomas J. Clarke, G. L. F. Soil Building
Small Plant Programs—W. C. Creel, North Carolina Department of Labor
Good Housekeeping—E. O. Burroughs, Jr., F. S. Royster Guano Company
Presiding Officer—Vernon S. Gornto, Smith-Douglass Company, Inc.
Gadget Display—John Miskelly, Mathieson Chemical Company
Case History Panel—Curtis A. Cox, Virginia-Carolina Chemical Company
Safety Is Inspiring—C. J. Watts, Jr., Naco Fertilizer Company

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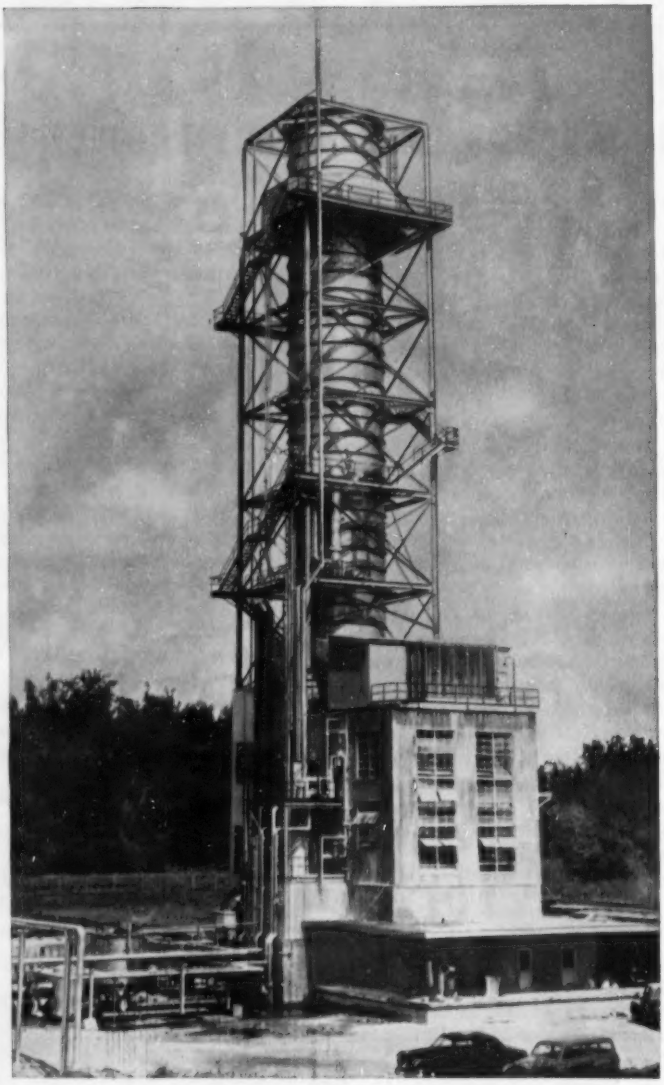

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Tank car shipments of Anhydrous Ammonia (82% nitrogen) are assured to Phillips contract customers by Phillips huge production facilities in the Texas Panhandle and at Adams Terminal near Houston. Write our nearest Division Office for full information.

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Get more N per dollar! Phillips *66* Nitrogen Solutions are well suited to the preparation of high-analysis fertilizers and the ammoniation of superphosphate. These three nitrogen solutions keep handling costs low! Promote rapid, thorough curing!

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EXPERIENCED PRODUCTION manager desires connection with progressive fertilizer manufacturer. Experienced in construction, production, maintenance, and shipping. Also contact or chamber acid manufacture and wet mix fertilizer. Box #11, c/o Commercial Fertilizer, 75 Third St., N. W. Atlanta, Ga.

WANTED: Job as fertilizer plant superintendent, dry mixing or acidulating. Experienced. Box # 9, c/o Commercial Fertilizer, 75 Third St., N. W. Atlanta, Ga.

WANTED: Superintendent experienced full charge of mixing in a small ammoniating plant located in a central Atlantic State. Box 40, c/o Commercial Fertilizer, 75 Third St., N. W. Atlanta, Ga.

FOR SALE: Fertilizer Plant, equipped for ammoniating, automatic batching, Ohio Valley trade territory, nearest competition 180 miles, modern equipment, capacity 15 tons per hour. Box # 10, c/o Commercial Fertilizer, 75 Third St., N. W., Atlanta, Ga.

STEEL TANKS FOR SALE: Dished heads—all welded. Excellent for storing liquid fertilizer, chemicals, etc. At Grand Rapids, Mich. (8) 23,400 gal, (2) 14,000 gal, (12) 9300 gal. At Tonawanda, N. Y. (2) 7000 gal. At Reading, Pa. (9) 4600 gal. At Philadelphia, Pa. (3) 13,700 gal, (3) 9150 gal. Also (5) 15,000 gal. Vertical Welded Steel Mixing Tanks with Turbo agitator. PERRY EQUIPMENT CORP. 1426 N. 6th St., Philadelphia 22, Pa.

WANTED TO PURCHASE dry mixing fertilizer plant, complete but not too large about 2,000 tons, as near New Jersey as possible. Box 34, c/o Commercial Fertilizer, 75 Third St., N. W., Atlanta, Ga.

FOR SALE: Complete dry mixing fertilizer plant and properties, buildings and equipment only 4 years old, located in middle of fast growing west central Georgia. Business has shown good profit for years. Capacity 30 Tons per Hour. I'm 76 and want to retire. Write, phone or see A. A. Britt, Sr. Thomaston, Georgia.

WANTED EXECUTIVE POSITION: By aggressive individual with twenty five years experience in fertilizer industry, accounting, acidulation, formulation, plant superintendent, purchasing supplies and raw materials, plant layout and construction. Now employed in administrative capacity. Seeking connection with company where salary will be commensurate with experience. Will consider proposition leading to interest in company thru stock purchases. Box # 87, c/o Commercial Fertilizer, 75 Third St., N. W. Atlanta, Ga.

FOR SALE: New Leader Fertilizer & Lime Spreader, body 6 feet wide, 11 feet long, late model with auxiliary engine, bought new, February 4, 1952. For sale very reasonable. Farmers Cotton Oil Company, Wilson, N. C.

WANTED: Aggressive young man, mid 30's, now employed as superintendent in acidulation and complete fertilizer plant, to develop into assistant to manager of fertilizer division of a fast growing organization in Northwest now expanding plant facilities. Must have good educational background and have clean record of getting things done. Opportunities good. Box # 30, c/o Commercial Fertilizer, 75 3rd St., N. W. Atlanta, Ga.

WANTED: Manager-Operator for Phosphate Grinding Plant to have charge of grinding mills, conveyor system, and loading of ground rock. Permanent position. In replying, give past experience, other qualifications, and age. Address reply to: E. J. Christman, Port Director, P. O. Box 1362, Lake Charles, La.

Safety Study

(Continued from page 65)

tion discovered and for its contribution to the general study. A final report will then be prepared for presentation to the Fertilizer Section at its annual October meeting in 1955.

Results

The final report on the study will include the following:

A. Information on the work habits, learning habits and motivational patterns of the fertilizer worker so that all future worker training aids may achieve maximum effectiveness.

B. General information to enable the fertilizer industry supervisory force to teach and supervise more effectively the work of the average fertilizer worker.

C. A check list of points to watch for in interviewing prospective fertilizer employees, which list may help to eliminate those most likely to have accidents.

D. The survey should also serve to arouse interest of the industry in the activities of the Section and will establish a valuable precedent for future sectional activities.

E. To provide the background material and opening talk at the October 1954 and 1955, annual meetings.

Caution

Dr. Nelson cautions that the information gathered in the field will be strictly confidential—there will be no reference to names or plants in any report. The information collected will not be released indiscriminately but becomes the property of the Industrial Relations Center of the University of Chicago. The preliminary report prepared for the early management discussion, and the final report prepared for the distribution will be the only information made available from the study. This point, the confidentialness of the data collected, cannot be stressed too highly.

EXECUTIVE GROUP MEETS OCTOBER 17

The executive committee of the Fertilizer Section will hold a meeting at 8 P.M. Sunday, October 17 in the Lincoln Room of the LaSalle Hotel, Chicago.

Wilson & Toomer Safety Record

The plant in which Wilson and Toomer Fertilizer Company produces superphosphate under contract for the Government has for the second consecutive time bested the National average as a safe place to work, according to William F. Moerlins, Safety and Health Engineer for the U. S. Department of Labor.

The Jacksonville fertilizer manufacturer showed an injury frequency rate for 1953 of 15.18, slightly more than 15 lost-time accidents per million man hours of work, compared to the industry average for that year of above 18, said Moerlins. However, a current examination just completed by the Safety Engineer of first-quarter operations show promise of a record year, as the firm is said to have cut its rate to 6.9 injuries per million man hours of work.

Safety and Health examinations are made by the Labor Department's representative where firms have supply contracts of $10,000 or more and are required to maintain safe and sanitary working conditions under the Walsh-Healy Public Contracts Act.

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Changes Ahead . . .

Probably so – some we can see coming, others may surprise us. But changes mean that something is happening, which can be all to the good, if we are vigilant and resourceful.

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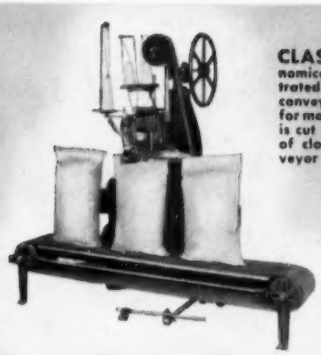
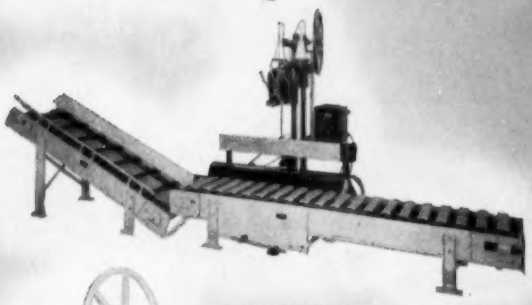
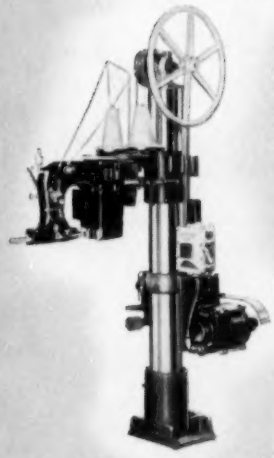


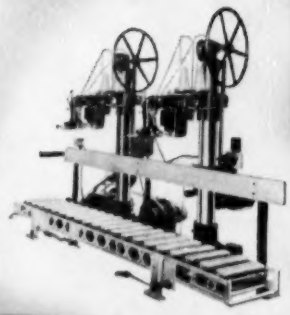
CLASS 21800 *(left)* **for fast, economical closing of paper bags. Illustrated is Style 21800 H with 5 ft. conveyor and 80600 H sewing head for making tape bound closure. Tape is cut off automatically at each end of closure. Sewing head and conveyor adjustable vertically.**





CLASS 20500 *(above)* **machines are heavy duty, high production units for closing medium and heavy weight bags. Available with power-driven horizontal conveyor, inclined conveyor, or both; or with conveyor transmission unit only, for plant production line.**

STYLE 20100 H *(left)*, **is a heavy duty, high production column type machine designed for use with plant conveyor systems. Sewing head is pedal controlled.**



DUPLEX MACHINES *(right)* **are designed for closing double bags. The first sewing head closes the inner bag; the second closes either the outer bag alone, or both bags together for extra safety. Also recommended for single closures where continuous operation is a must — operator can instantly switch to other head.**

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